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ROYAL COMMISSION OF INQUIRY INTO CERTAIN  
DEATHS AT THE HOSPITAL FOR SICK CHILDREN AND  
RELATED MATTERS.

Hearing held  
8th floor  
180 Dundas Street West  
Toronto, Ontario

Becker  
Malanig

The Honourable Mr. Justice S.G.M. Grange

Commissioner

P.S.A. Lamek, Q.C.

Counsel

E.A. Cronk

Associate Counsel

Thomas Millar

Administrator

Transcript of evidence  
for

September 22, 1983

VOLUME 38

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TORONTO, ONTARIO

1 ROYAL COMMISSION OF INQUIRY INTO CERTAIN  
2 DEATHS AT THE HOSPITAL FOR SICK CHILDREN  
AND RELATED MATTERS.

3

4 Hearing held on the 8th Floor,  
5 180 Dundas Street West, Toronto,  
6 Ontario, on Thursday, the 22nd  
day of September, 1983.

7

8 THE HONOURABLE MR. JUSTICE S.G.M. GRANGE - Commissioner  
9

10 THOMAS MILLAR - Administrator  
11

12 MURRAY R. ELLIOT - Registrar

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22  
23  
24 (Cont'd)  
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2

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14

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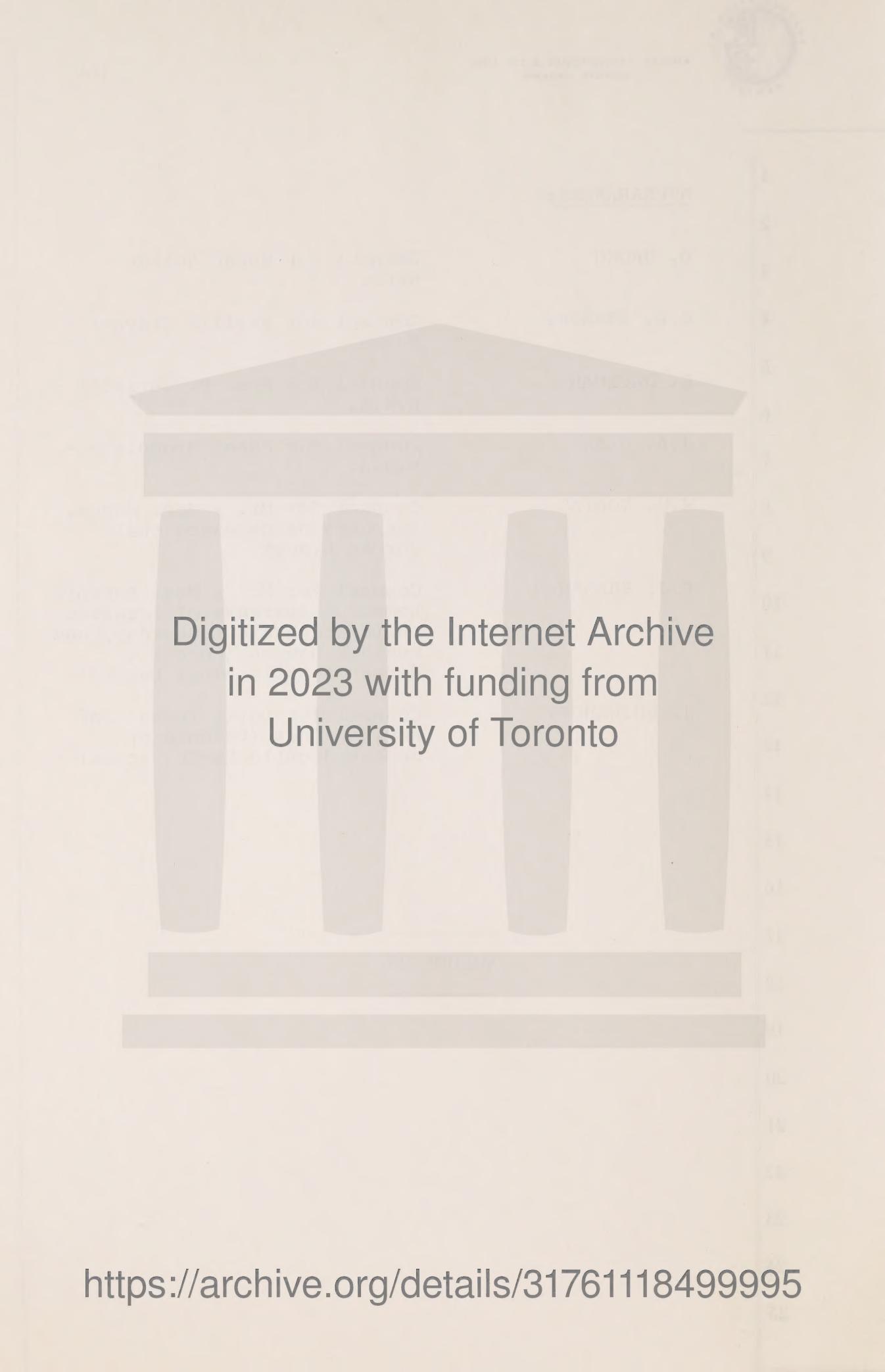
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/BB/ak ---Upon commencing at 10:00 a.m.

THE COMMISSIONER: I want to start off the proceedings this morning by saying something that is remotely related to funding.

Mr. Olah had arranged to have summaries made of the evidence and he had to give that up because of the stringent rules of the Commissioner with respect to disbursements. But I have looked at the product, it is done by a young lawyer and I think it is a pretty professional effort and I'm considering that we might do it under the auspices of the Commission but there are two conditions that have to be fulfilled. First of all, I want the funded counsel to look at it, if they haven't seen it already, and to tell me honestly whether they think it will save them some time because there is not much point in spending more money on this Commission if it isn't going to do some good and obviously the funded counsel aren't going to pay; the non-funded counsel I would ask them to look at it also to see if they think it would be of use to them, bearing in mind that they are going to be charged for it - not a great deal but they will be charged something. I have in mind something, say, something in the line of \$25 per day for the counsel. We are not going to make a profit on that





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let me tell you by any means if it is going to be  
supplied to the funded counsel.

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So, Ms. Cronk has a copy of Dr. Rowe's evidence in chief as done by this lawyer and if anybody hasn't seen it, they want to look at it, decide whether that sort of thing will be of use to the funded counsel, decide whether - I mean to the non-funded counsel - and the funded counsel, decide whether they think having that is going to save them some time and therefore save the Commission some money in paying them. I don't want to exact a promise from them at all but I just want an honest opinion as to whether it will and we will discuss the matter again in taking up some of Mr. Sopinka's time on Tuesday night at 4:30. We have to be here anyway for his motion, so, we will discuss that problem as well.

I am prepared to answer questions at that time but I understand that it will be fairly soon after -- it won't be nearly as good as far as timing is concerned, it won't be nearly as full as the reporters, there will be a certain amount of editing done by him, there has to be, it's not much use if you have to read the same sort of thing over again. But you will get an idea from looking at the one that





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Ms. Cronk has, if you haven't seen it before, and  
we will discuss whether we will go ahead with the  
project next Tuesday.

5

Yes, all right, Ms. Cronk.

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MS. CRONK: Thank you, sir.

7

DR. LAURENCE EDWARD BECKER, Resumed

8

DIRECT EXAMINATION BY MS. CRONK: (Continued)

9

Q. Good morning, Dr. Becker.

10

A. Good morning.

11

Q. You will recall, Dr. Becker,  
when we broke yesterday afternoon we were discussing  
the difference between a gross autopsy and a full  
autopsy and as well I think very briefly we had  
begun to discuss the preparation involved to prepare  
and produce a preliminary autopsy report. Can you  
help me, Doctor, as a routine matter, how long after  
completion of the gross autopsy is it before usually  
the preliminary autopsy report in respect of that  
autopsy is prepared?

12

A. The autopsy reports in a  
preliminary way are reported in various time frames.  
The aim is to have the preliminary report done  
within 24 to 48 hours. However, that doesn't happen  
in all instances. If more examination is required,  
for example, looking at the microscopic sections

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from the autopsy, then the preliminary report will  
be delayed accordingly.

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Also, if it is felt that there is any  
possibility that there is something to be found in  
the brain, then the preliminary report must wait  
until the brain tissue is examined, which may further  
prolong the preliminary report. And then in some  
instances there is no preliminary report.

Q. Well, that was going to be  
my next question, Doctor. I take it then that it is  
not mandatory, or the policy of the Pathology  
Department that in all instances a written preliminary  
autopsy report be prepared?

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A. That's correct.

Q. All right. Are there any

special situations in which that applies, Doctor,  
or is the normal custom to prepare a preliminary  
autopsy report as well as the final one in written  
form?

A. Generally that prevails, that

policy prevails. The one instance where there is  
characteristically not a preliminary report would be  
in those instances where a post mortem is done on  
fetal tissue.

Q. On fetal tissue, Doctor?





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A. Yes.

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Q. All right. Doctor, we were  
discussing as well yesterday the issue of the  
methods available to identify the recipients for  
the written preliminary and final autopsy reports.  
You recall that?

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A. Yes.

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Q. All right. And you told me  
that, as I recall your evidence, that the names of  
the recipients were drawn from the admitting and  
discharge summary which is contained in the medical  
record of the particular patient which is available  
to the pathologist before the autopsy is commenced.

9

Do I have that correctly?

10

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A. That is my understanding, yes.

12

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Q. All right. Can you help me,

14

Doctor. I have been provided again by your counsel,  
and in this respect I believe it was Ms. Thomson  
again, Mr. Commissioner, with a copy of what appears  
to be extracts from Medical Records meetings on  
January 9th, 1979 and April 3rd, 1979, which appear  
to speak to the issue of the dissemination of  
preliminary and final autopsy reports and the methods  
by which the recipients are to be determined.

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THE COMMISSIONER: Minutes of what

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TORONTO, ONTARIO

Becker, dr.ex.  
(Cronk)

7541

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Committee?

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MS. CRONK: Medical Records Department,  
4 sir.

5

THE COMMISSIONER: Is this one exhibit  
6 or is it two?

7

MS. CRONK: I think it can be marked  
8 together, Mr. Commissioner.

9

THE COMMISSIONER: All right, that  
is No. 195.

10

---EXHIBIT NO. 195: Extract from Medical Records  
11 Department dated January 9th,  
12 1979 and April 3rd, 1979.

13

MS. CRONK: Q. Doctor, could I ask  
14 you to look first at the second page which is numbered  
15 page 3 and it is entitled Medical Records Minutes -  
16 January 9, 1979 and I am referring to the section  
17 dealing with Autopsy Reports numbered 10 in which it  
is indicated that:

18

"Dr. McClure agreed to distribution by  
19 Medical Records. Dr. Carroll moved that  
20 the mailing of autopsy reports in future  
21 be done by Medical Records following the  
22 same rules as those for distributing  
23 discharge summaries, that is through  
the staff doctor."

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And then the motion was seconded.

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If we turn to the first page, numbered  
page 2, an extract from the minutes of a meeting  
on April 3rd, 1979, some three months later we see  
under Item No. 5 dealing with Autopsy Reports, this  
passage:

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"Dr. McClure had discussed with his  
staff the distribution of Autopsy  
Reports by Medical Records. His staff  
will list on the reports the names of  
doctors to receive them."

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Stopping there for a moment, Dr. Becker,  
can you help me as to who Dr. McClure is? Is he in  
the Pathology Department or was he at the time or was  
he in Medical Records?

A. Dr. McClure is a staff hematolo-  
gist who was acting as head of the Department of  
Pathology before Dr. Phillips took up that position.

Q. All right. And then continuing  
with the passage it indicates:

"Mr. Rowe and Miss Haffey agreed to  
a trial period pending recommendations  
from the Krever Commission on  
Confidentiality, at which time distri-  
bution may have to be more limited.





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"All reports are to be stamped as  
'Confidential and Not to be Circulated'  
and sent directly from Medical Records  
to family doctors, pediatricians, or  
obstetricians."

Now, as I understand it from this  
extract, Doctor, it was decided in early April of  
1979 then that the staff in the Pathology Department  
then under the supervision of Dr. McClure would be  
responsible for listing on the autopsy reports the  
names of the doctors who were to receive a copy. Do  
I have that correctly?

A. Well, his staff is used in a  
different sense. It isn't meant the pathologist  
per se. I believe what was done at that time was  
that the secretary that was typing the report would  
look on that admission and discharge note and write  
either on a piece of paper attached to the report,  
which was then sent down to Medical Records or  
write the names of those doctors directly on the  
report.

Q. And that was done in the  
Pathology Department before the reports went down  
to Medical Records?

A. To the best of my knowledge





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that was being done.

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Q. Thank you, Doctor. Did that apply both to written preliminary autopsy reports and final autopsy reports?

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A. I have assumed that that was so.

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Q. In the normal case then, Doctor, I take it, having regard to the kinds of information that we've seen are recorded in the admitting and discharge sheets, a copy would be designated to go to the referring physician outside the Hospital for Sick Children.

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A. If that name appeared on that sheet of paper, yes.

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Q. If that be so. And if the

name of the attending doctor at the Hospital for Sick Children appeared on the admitting and discharge sheet a copy of the autopsy report would be designated to go to that doctor?

A. Yes.

Q. All right. Now, if the patient happened to be a cardiac patient, Doctor, from the cardiology wards in the Hospital, was there, to the best of your recollection during the time frame that we are concerned with, July, 1980 to March of 1981,





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any other special, any other arrangement as to who  
might receive a copy of the report?

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A. Yes. My understanding was that  
in addition the reports from the cardiac patients  
went to Dr. Freedom. That wasn't an exception.  
there was also another exception - reports of autopsy  
reports, that is, on children that died in the  
neonatal wards were sent to the neonatologist  
as a routine, fairly routine procedure.

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Q. All right. Then I take it  
from what you said that as a fairly routine matter  
Dr. Freedom would be designated to receive a copy  
of a preliminary and final autopsy report if they  
were in respect of a cardiac patient?

A. That is my understanding, yes.

Q. Thank you, Doctor. And did  
that policy, and by that I mean the policy of the  
staff internal to the Pathology Department, making  
up a list of those who were to receive a copy of  
the reports and then forwarding that list together  
with the autopsy report down to Medical Records for  
ultimate distribution, did that policy extend beyond  
1979 to the period that we are concerned with, that  
is, July 1980 through to the end of March 1981?

A. I believe it was the policy in





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place, yes.

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Q. Thank you, Doctor. Doctor, in  
the last passage under Item No. 5 in the extract  
from the meeting of April 3rd, 1979 we see this  
recording:

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"Miss Haffey reported delays up to  
4 months before preliminary autopsy  
reports reached Medical Records.

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Dr. McClure will check with the  
Pathology Department to ascertain the  
reasons."

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In the time period with which we are  
concerned, Doctor, again, the July through March  
period, can you help me, do you know what the average  
time was for which -- I am sorry, what the average  
time was for a preliminary autopsy report to reach  
Medical Records for distribution from the Pathology  
Department?

A. No, I don't know that information.

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Q. In your experience, Doctor,  
throughout that time frame would four months be a  
long or normal interval before the reports actually  
left pathology and arrived in Medical Records for  
ultimate distribution to the appropriate positions?





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A. It sounds to me like that is a  
long period of time in terms of the preliminary  
autopsy report.

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Q. All right. Now, Doctor, you  
have told me that although it is variable as a usual  
or ideal practice it was hoped that the written  
preliminary autopsy report would be prepared within  
24 to 48 hours after the gross autopsy, I'm sorry,  
after the autopsy, the full autopsy was completed,  
although that changed in circumstances where further  
examinations had to be conducted. Can you tell me,  
Doctor, whose responsibility was it to prepare the  
preliminary autopsy report?

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A. The responsibility for the  
preliminary autopsy report was really in the hands  
of two people, the resident doctor that was the  
prosecutor in the case prepared a summary of the  
clinical findings and made a rough draft of the  
proposed diagnoses. That resident doctor then took  
that work sheet or rough draft to the staff  
pathologist who then went over it with the resident  
doctor, discussed it with that resident doctor and  
then a final reading or final preliminary report  
was ready for typing.

Q. Can you tell me, Doctor, again





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from a layperson's perspective, how does the resident  
go about preparing the initial first draft of his  
or her observations? Does he take notes during the  
course of the autopsy, does he dictate during the  
course of the autopsy or is this a matter of  
recollection following completion of the autopsy?

7

A. I would imagine it would  
depend very much on the particular resident. Some  
residents would stop and make notes during the  
autopsy procedure, other residents would perhaps  
tell the diener to note a particular dimension that  
was important in terms of doing the autopsy and then  
some of the more senior residents were in the habit  
of dictating either during the autopsy or immediately  
after the autopsy any pertinent findings that were  
apparent.

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original out. But in some cases the rough draft may  
very well have been kept, yes.

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Q. All right. And in circumstances  
where they may have been kept is there a policy or  
any guidelines in place as to how long they are  
to be retained in the Pathology Department?

4

A. These are the rough drafts?

5

Q. We're talking now about the

6

rough drafts.

7

A. Not to my knowledge.

8

Q. All right. In dealing then  
with the final draft of the preliminary autopsy  
report, as a routine matter are copies of those  
reports kept in the Pathology Department?

9

A. Yes.

10

Q. All right. And are they  
retained indefinitely?

11

A. I don't know for what period  
of time they are retained.

12

Q. All right. With respect to  
final autopsy reports, again, as a matter of routine  
are copies of those final reports kept in the  
Pathology Department?

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A. Yes, they are.

14

Q. Right. And that would be so

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in respect of both the preliminary and the final  
reports notwithstanding that copies were sent to  
the Medical Records Department for distribution to  
others?

A. I'm afraid you'll have to  
repeat that.

Q. I am sorry. That would be the  
case, copies would be kept in the Pathology Department  
notwithstanding that other copies were sent to the  
Medical Records Department for distribution to others?

A. You're referring to the  
preliminary or to the final now?

Q. Well, let's talk about the  
preliminary first. Would you always keep a copy of  
the preliminary in the Pathology Department?

A. Oh, yes. I already said that  
they were kept in the Pathology Department but I  
didn't know for how long they were kept.

Q. Thank you, Doctor. And the  
same would apply with respect to the final autopsy  
report?

A. The final autopsy report is  
kept forever.

Q. Right. Doctor, we have seen  
on a number of the autopsy reports that we have

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reviewed that on the bottom of the standard form  
there is a place for signature for two doctors. Can  
you help me, is there a general guideline as to who  
is to sign the preliminary autopsy report?

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A. The preliminary autopsy report  
is signed usually by the resident doctor and by the  
staff pathologist.

Q. And are those two individuals  
the same expected signators of the final autopsy  
report?

A. In usual circumstances that is  
so. If someone is on vacation then someone else may  
step in accordingly.

Q. All right. Doctor, then  
with respect to the preparation of the final autopsy  
report. In situations where a preliminary report  
has been prepared are there any rules or guidelines  
internal to the Pathology Department or the Hospital  
at large as to the time within which the final  
autopsy report is to be prepared after the preliminary  
has been prepared?

A. There are guidelines, there  
are no rules.

Q. All right. Can you help me,  
Doctor, generally in the normal situation how long





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it would be after preparation of the preliminary  
report for the final report to be prepared?

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A. The time frame that we are aiming for is usually between one to two months and this is exceedingly good when one compares the time it takes to complete an autopsy report with other institutions that I have been in. It may seem like a long time to a layperson but in terms of autopsy departments, I have probably been in half a dozen, the time it takes for final autopsy reports usually ranges from a couple of months to as long as six or seven months. This is not unusual whatsoever in my experience.

Q. I see, thank you, Doctor.

With respect generally, Doctor, if

you can help me, with reference to the records kept in the Pathology Department, leaving aside the retention of copies of the preliminary and final autopsy reports themselves, can you tell me during the time period that we are concerned with was any ledger or record of any kind kept concerning the date upon which a preliminary autopsy report or a final autopsy report was prepared and signed?

A. I don't know of any such ledger.





EMT.jc  
B

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2 Q. And similarly, Doctor, internal  
3 to the Pathology Department, was any ledger or record  
4 of any kind kept as to the time and the date when  
5 a particular autopsy was performed?

6 A. Yes, there certainly were.

7 THE COMMISSIONER: When it was performed  
8 but not when it was prepared I take it?

9 THE WITNESS: I believe that there was  
10 a check-off when the report was completed, but I  
11 don't believe there was a date associated with that  
check-off.

12 THE COMMISSIONER: I am sorry, you  
13 don't believe there was a?

14 THE WITNESS: A date associated with  
15 the check indicating that the final autopsy had been  
completed.

16 THE COMMISSIONER: The trouble is we  
17 don't see - we don't know what time they were prepared.

18 THE WITNESS: Yes.

19 THE COMMISSIONER: I don't know, it  
20 may not be any problem to you. It is just that it  
has developed that it is a problem to us.

21 THE WITNESS: Yes. I think it has  
22 developed because when the autopsy form was made up  
23 some years ago there was essentially no blank for

24

25





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B.2

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2 date of completion of report, and consequently it  
3 has never been filled in.

4 THE COMMISSIONER: Well, it was filled  
5 in but it was filled in - it had a date, the date  
6 was always filled in as the date of the autopsy, the  
7 date of the preparation.

8

THE WITNESS: Yes. That has been so  
9 for the last 30 or 40 years in The Hospital for Sick  
10 Children. That date has been the date of the autopsy.

11

12 In my personal experience I had  
13 instructed my secretary to put the date of the final  
14 report. In some cases that was done.

15

MS. CRONK: Q. And I take it, Doctor,  
16 apart from the spaces on the form itself for insertion  
17 of that date, internal to the Pathology Department  
18 there would be some indication that a final report  
19 or a preliminary report had been prepared and signed  
20 off, as it were, signed by the doctors involved, but  
21 there would be no ongoing or permanent record kept  
22 of when those reports actually left the Pathology  
23 Department?

24

A. Not to my knowledge, no.

25

Q. Do I have it correctly? All right.

26

Thank you.

27

Can we turn then, Doctor, so that we

28

29





B.3

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2 are clear on what the information called for by the  
3 preliminary and final autopsy reports is intended to  
4 mean, can we turn briefly just to a sample autopsy  
5 report?

6 Mr. Registrar, I have David Taylor's  
7 medical record in my hand. There is no magic in the  
8 choice of that one, but could you show Dr. Becker  
9 Exhibit 43 if you would, please?

10 Doctor, the final autopsy report is  
11 found at page 12 of that record.

12 A. Yes.

13 Q. Do you have that, Doctor?

14 A. Yes.

15 Q. As you will appreciate we have  
16 had reason to examine quite a number of these autopsy  
17 reports. Perhaps you can confirm, or at least  
18 clarify for us what our understanding to date has  
19 been with respect to a number of the entries on the  
20 standard form?

21 First, on the entry beside the name  
22 I take it obviously is the name of the patient; the  
23 entry beside that, the ward upon which the patient  
24 died?

25 A. Yes.

Q. The history number I take it is





B. 4

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2 the number assigned at the time of admission to the  
3 Hospital to the patient involved?

4 A. Yes.

5 Q. And then there is the letter "A",  
6 and we have taken that to refer to the number  
7 assigned by the Pathology Department to the autopsies.  
Is our understanding correct?

8 A. Yes.

9 Q. And the next line we see the  
10 gender of the child, the age of the child. I take  
11 that to be age at death?

12 A. Yes.

13 Q. Then the category "hours after  
14 death", Doctor, would I take that correctly to mean  
15 the number of hours after the death of the child at  
16 which the autopsy was commenced, or is it the number  
17 of hours after death at which the autopsy was  
completed?

18 A. The number of hours after death  
when the autopsy commenced.

19 Q. All right. And then similarly  
20 the date category which has caused us some confusion  
21 in the past but I take it from what you said this  
22 morning that reflects the date upon which the autopsy  
23 was in fact performed?

24

25





B.5

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A. That is correct.

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Q. And then the date of birth of the particular patient, time of birth of the particular patient, and the prosector you have told us is the resident who actually performs the autopsy?

7

A. Yes.

8

9

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Q. And then the date of the death of the child, the time of death of the child. Those two categories of information I take it, Doctor, would be drawn directly from the medical record of the patient?

A. Which aspect, under clinical diagnosis?

Q. I'm sorry, no, the date of death and the time of death. The time of death would be drawn directly from the medical record?

A. The time of death?

Q. Yes.

A. In most instance probably so, yes.

There is another source, though, for time of death in that on the shroud of the body there is usually a tag which identifies the patient, and usually also has the time of death. So I would expect that in some instances that time may be used, but I would think most of the time the time of death





B.6

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2 would be the time of death that is listed in the chart.

3

4 Q. And then, doctor, the final  
5 category in that section is technician, and you have  
6 told us I believe that that is the diener, the name  
7 of the diener who assisted the resident in performing  
8 the autopsy?

9

A. Yes.

10

Q. That is his name as appears there?

11

A. Yes.

12

Q. Doctor, who is responsible for  
13 completing or filling in that section of the form,  
those items of information that was have just gone  
through from names through to the identity of the  
14 technician?

15

A. That part of the form is usually  
completed by the resident doctor.

16

Q. All right. And then, Doctor, we  
see the next space for insertion of information is  
17 a dotted line. In this case the words "aortic stenosis"  
are inserted.

18

It has been suggested in previous  
evidence that the words or the description set out  
in that line of an autopsy report are intended to  
indicate what is considered to be the predominant  
cause of death. Is that correct in your experience,  
Doctor?

19





BB. 7

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A. The predominant cause of?

2

Q. What the finding was as to cause  
of death as a result of the autopsy?

3

A. No. It says clinical diagnoses.

4

Those were the main clinical diagnoses.

5

Q. I am sorry, I am looking above  
that on the dotted line where the words "aortic  
stenosis" appear.

6

A. No, that had nothing to do  
necessarily with cause of death. It was the main  
disease that the patient had.

7

Q. Was it intended --

8

A. It may or may not have been related  
to the cause or mechanism of death.

9

Q. I see. Do I take it then, Doctor,  
that it could - it did in most instances refer to the  
clinical diagnosis of the child during life but it  
might as well in some situations relate to the  
findings post autopsy?

10

A. No. That title is for the  
autopsy findings, but the main diagnosis of autopsy  
finding, not clinical diagnosis.

11

THE COMMISSIONER: If it does it is a  
coincidence?

12

THE WITNESS: That is right.

13

14

15





B.8

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2 MS. CRONK: Q. Thank you, Doctor.

3

4 And then on this particular form,

5

6 Doctor, which is a copy of the final autopsy report,  
7 we see a section for clinical diagnosis, a section  
8 for anatomical diagnosis, and on page 2 a section  
9 for history and clinical pathological discussion.

10

11 Can you tell me, Doctor, who would be  
12 responsible for completing those three sections?

13

14 A. As I have already mentioned the  
15 resident doctor makes a rough draft of this. This  
16 is then looked at, revised by the staff pathologist,  
17 and a final version is constructed.

18

19 Q. Doctor, thank you for your  
20 assistance with the form itself.

21

22 I am interested as well very briefly  
23 in the pathology meetings or any pathology  
24 conferences that might be held internal to the  
25 Pathology Department to discuss the results of the  
autopsies that have been performed.

26

27 Can you help me, Doctor, during the  
28 period of time again that we are concerned with were  
29 there regular meetings held to your knowledge internal  
30 to the Pathology Department for the purposes of  
31 reviewing particular findings in respect of autopsies  
32 that had been conducted?

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B.10

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case, or presented at neurology rounds if it were an interesting neurological case, and there were numerous rounds of this nature that Pathology was called upon to attend.

Q. I take it then, Doctor, that internal to the Pathology Department if there were any findings that were of particular interest, be it academic or otherwise, as a result of a post mortem, there would in the week of that autopsy be an occasion on which it would be possible to discuss those findings amongst the other members of the Pathology Department?

A. Yes, but I am not clear what you mean by "academic", and you said something else?

Q. I'm sorry, I said academic or otherwise because you told me that the pathology meetings that were held and organized by Dr. Gillan --

A. Yes.

Q. -- to discuss interesting cases very often had to do with academically interesting findings.

A. Yes.

Q. What I am suggesting is that if you as a pathologist found something that you felt was of interest or of particular concern as a result

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2 of an autopsy that you had supervised, there would  
3 be an occasion in the week of that autopsy for you  
4 to discuss it with your colleagues?

5 A. There would be such an occasion,  
6 yes.

7 Q. That would be meetings organized  
8 at the minimum by Dr. Gillan?

9 A. Yes.

10 Q. Now, Doctor, with respect to the  
11 interaction if any between the Pathology Department  
12 and the Biochemistry Laboratory in the Hospital, can  
13 you help me again as a general rule during the time  
14 period with which we are interested, were postmortem  
15 assays requested by the Pathology Department for  
16 various drugs as part of standard autopsy procedures?

17 A. Certainly that was no standard  
18 procedure to the best of my knowledge.

19 Q. All right. When I say, Doctor,  
20 postmortem assays for various drugs, I have in mind  
21 what some witnesses have described as a drug screen.  
22 That is, a request for various assays on a number of  
23 drugs to be run as part and parcel of the autopsy  
24 procedure, and I take it that you said that was not  
25 the standard practice?

A. It was not the standard practice.





B.12

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Q. In your own experience, Doctor, in respect to the autopsies that you have conducted, did you on occasion - did you have occasion in respect of autopsies to request during the time period that we are concerned with postmortem assays on digoxin in respect of patients for whom you had conducted the autopsy?

A. Not to the best of my knowledge, no.

Q. All right. Similarly, would there be isolated situations where the drug screen assays would be requested, or would that be an unheard of event?

A. No, it would occasionally happen.

Q. Can you assist the Commissioner and the rest of us as to the possible circumstances in which pathologists would be concerned to do that?

A. Well, the usual circumstances would be a situation likely where there was a coroner's case essentially, and that has been my only experience in which drug assays have been done.

Usually it is for - the drug assays that they do are for barbiturates and alcohol. I think those are the only results that I have had relating to drug screens.

Other pathologists may have had different experiences.





B.13

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2 Q. Doctor, we have heard in evidence  
3 that postmortem digoxin assays were requested in  
4 respect of a patient by the name of Janice Estrella.  
5 We know as well that on into the month of March, 1981,  
6 postmortem digoxin assays were requested and obtained  
7 with respect to Kevin Pacsai, Justin Cook and Allana  
Miller.

8

Leaving aside those four children,  
9 Doctor, as best as you can recall, prior to the end  
10 of March, 1981, were you aware of any postmortem  
11 digoxin assays being ordered or requested by any  
12 member of the Pathology Department in respect of a  
13 patient upon whom an autopsy was being conducted?

14

Leaving aside those four patients.

15

A. No.

16

(2)

Q. Thank you. With respect to  
those situations, Doctor, where a postmortem drug  
assay would be requested and you have described to  
us at least one scenario where that might happen,  
and that would be in the circumstances of a coroner's  
case, what was your understanding, Doctor, again  
during the time period that we are concerned with as  
to how the biochemistry laboratory was to report  
the results of that assay?

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A. Well, in my experience the assay





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2 was actually done by the Forensic Pathology - the  
3 Department of Forensic Pathology under the jurisdiction  
4 of the coroner. It wasn't performed in The Hospital  
5 for Sick Children in my experience.

5

6 Q. I see, Doctor.

7 Would I be correct then that with the  
8 exception of coroner's cases where the assays were  
9 done under the auspices of the coroner's offices  
10 you cannot, sitting here today, recall a situation  
11 where you would have had occasion to ask for a post-  
12 mortem drug assay to be done by the biochemistry  
13 laboratories internal to the Hospital?

14

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A. No, I can't remember such a  
situation in my experience.





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Q. Thank you Doctor. Based on

your experience in the Pathology Department since joining the Hospital for Sick Children, are you aware of any rules, or guidelines, which apply to the reporting of biochemistry results from the Biochemistry Laboratories to the Pathology Department. Do you have any understanding as to how those results are communicated to the pathologists when and if they have been requested?

A. Well I have never seen any written rules, or guidelines; it certainly would be my understanding that the assay once completed would be put on a form and a copy of that form presumably would be sent to the pathologist, but certainly I am only assuming that.

THE COMMISSIONER: Well, we now have an understanding there are digoxin assays done post mortem with every child, is that not right?

THE WITNESS: Yes.

THE COMMISSIONER: Do they all come automatically to your department?

THE WITNESS: Yes they do.

MS. CRONK: Q. That is subsequent though to the end of March, 1981, as I understand it, Doctor?





1

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A. Yes.

3

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THE COMMISSIONER: There were not any before then, so it wasn't much of a problem except for the four?

6

MS. CRONK: That's right.

7

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9

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12

Q. Doctor, with respect to Coroners' autopsies, and you have explained that in those situations it would perhaps be the case that drug screens, assays for various drugs would be requested, have you had occasion from time to time in the hospital to perform autopsies at the request of the Coroner's Office?

13

A. Yes.

14

15

16

Q. In those circumstances, Doctor, are the normal forms of documentation completed, that is the preliminary autopsy report and the final autopsy report?

17

18

A. In those cases there usually is no preliminary report.

19

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Q. Well we have seen, Doctor, in respect of a number of the cases that we have looked at, a document that is entitled "Report of Post Mortem Examination" and it is entitled "The Coroner's Act, Province of Ontario", and that is a form, for your assistance, Doctor, and it happens to





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be, Mr. Commissioner, one from the medical record  
of Amber Dawson on whom a coroner's ordered autopsy  
was conducted.

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Apart from the completion of that  
form of documentation, Doctor, when it was a coroner's  
autopsy you have told me it would not be usual that  
a preliminary autopsy report would be completed.  
Would a final autopsy report as a separate and  
distinct document be completed in addition to the  
form that is before you?

11

12

13

14

A. Yes. Actually in terms of  
the preliminary report there would be some variability  
depending on the pathologist that was doing the  
medical/legal work.

15

16

17

18

THE COMMISSIONER: I'm sorry, are we  
now referring to - I don't think so.

19

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MS. CRONK: I'm sorry, Mr. Commissioner,  
it is simply an extract from the medical record of  
Coroner's postmortem examination result.

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THE COMMISSIONER: Yes. I would just  
like to see, if you could just pause for a moment.

Thank you. What page is it on the Dawson report?

MR. ORTVED: 59.

MS. CRONK: The medical record is

Exhibit 59, is it also on page 59?





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MR. ORTVED: Yes.

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THE COMMISSIONER: Page 59. I suppose this is a better question to ask a coroner than it is to ask you. Why is it necessary to have - I suppose this is the pathologist's report and I suppose the coroner's investigation statement is his acceptance, or non-acceptance of the pathologist's report. Why do we have two? Why do we have a coroner's investigation statement as well as a report of postmortem examination?

THE WITNESS: During this time that the pathologist - well it continues until now too, the pathologists that are performing hospital autopsies are the same pathologists that are performing coroner's autopsies. In order to have complete records in the Pathology Department there was also a summary of the coroner's post mortem kept in our department.

THE COMMISSIONER: This may not matter at all. The coroner used the Pathology Department of the Sick Children's Hospital to do the autopsies, isn't that right?

THE WITNESS: That is correct.

THE COMMISSIONER: Then the Pathology Department prepared, it is prepared on a coroner's





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2 form under the Coroner's Act, a report of postmortem  
3 examination. Then I take it that went to the coroner  
4 himself?

5

THE WITNESS: Yes.

6

7 THE COMMISSIONER: And he did not sign  
8 this document, the report of postmortem examination,  
9 but he prepared a coroner's investigation statement,  
10 is that right?

11

THE WITNESS: Yes.

12

13 THE COMMISSIONER: If I am wrong please  
14 tell me.

15

16 THE WITNESS: Well before the post  
17 mortem is done though there is a Warrant for a post  
18 mortem and that is signed by the coroner.

19

THE COMMISSIONER: Yes, I see.

20

21 THE WITNESS: And following that  
22 Warrant then this report is made to the coroner and  
23 then he proceeds with the investigation. I don't  
24 know what the final outcome of that is.

25

26 THE COMMISSIONER: What more investigation  
27 does he do ordinarily; in the ordinary course I would  
28 take it the investigation is done by reading the  
29 report of the postmortem examinations.

30

31 THE WITNESS: That has been my  
32 experience, yes.

33

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2 THE COMMISSIONER: And he then writes  
3 a report of his own based upon that?

4

THE WITNESS: Yes.

5

6 THE COMMISSIONER: It is always much  
shorter I notice, maybe that is because there isn't  
that much room, there is only one page.

7

8 MS. CRONK: Mr. Commissioner, we will  
9 in due course of course be hearing from a number of  
the coroners who were involved with respect to these  
10 cases.

11

THE COMMISSIONER: Yes.

12

13 MS. CRONK: My understanding, if it  
is of any assistance to you now and subject to  
14 confirmation, is that the coroner's investigation  
statement is the document that is used to record  
15 first when the case was first brought to the attention  
of the Coroner's offices: and then the steps that  
16 were pursued thereafter in the course of the coroner's  
17 investigation.

18

19 The document that I have shown, the  
sample of the kind of document that I have shown Dr.  
20 Becker, and I understand it is the documentation that  
21 is completed by the pathologist who is actually  
22 performing the autopsy.

23

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THE COMMISSIONER: Well, yes, I was





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2 just curious to know really whether there is anything  
3 additional, other than an interpretation of the  
4 pathologist's report, that is all the coroner does  
5 in the ordinary course; and of course he has an inquest  
6 and that would be vastly different.

7

MS. CRONK: Yes.

8

THE COMMISSIONER: I'm sorry, Mr.  
9 Roland, you were going to say something.

10

MR. ROLAND: Mr. Commissioner, I  
think we may be acting under a bit of a misapprehension.  
At least when I am looking at Exhibit 150 of Amber  
Dawson, the coroner's investigation statement is  
dated August 18, 1980, and when we look at Exhibit  
59, page 59 of the report of postmortem examination  
it is dated October 3rd, 1980.

15

MR. ORTVED: That is page 63.

16

MR. ROLAND: And it is really a couple  
of months after the coroner's investigation statement,  
so it seems to come before the report of the post  
mortem.

19

THE COMMISSIONER: Is the coroner's  
investigation statement, is it part of Exhibit 150?

21

MR. ROLAND: It is the second page of  
Exhibit 150 for Amber Dawson.

23

THE COMMISSIONER: Oh, it is the first

24

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page on mine, and it is dated you say --?

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MR. ROLAND: At the bottom left hand corner August 18, 1980, which is almost two months before the date of the report of the postmortem examination on page 63 of Exhibit 59.

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MS. CRONK: And you will notice as well just to perhaps further confuse the issue, Mr. Commissioner, that on the coroner's investigation statement as it happens for Amber Dawson there is a date indicating the date upon which the report, the case was reported and that is indicated to be July 28, 1980. It may very well be that this particular form of documentation will have to be clarified for us by witnesses from the Coroner's office in the future.

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MR. ORTVED: I just rise to say you should be aware, and this can be clarified by the coroners, but I am fully aware from my experience that coroner's investigations can take the form of attending, viewing the autopsy, viewing the records, interviewing doctors, in addition to anything reported to him by a pathologist.

21

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THE COMMISSIONER: It may well be, but surely a coroner's investigation statement would not come before the postmortem examination.





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9 MR. ORTVED: It seems to in this case.

2

3 MS. CRONK: Q. Doctor, may I ask you  
4 this: after the results of the postmortem examination  
5 document are completed for the Coroner's office, does  
6 the pathologist at the Hospital for Sick Children  
7 in your experience, who has performed the autopsy for  
8 the coroner, have any further involvement in terms  
9 of completing the investigation statement, or assisting  
in that?

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A . Not to the best of my knowledge,  
other than appearing at the inquest if an inquest is  
held.

Q . Now apart from the kind of  
document that you have in front of you, Doctor, that  
is completed when a coroner's autopsy is to be  
performed, do I have it correctly, and I am sorry  
I may simply not have heard you correctly earlier,  
do I take it correctly that in addition to the  
completion of that document the involved pathologist  
would as well complete what would normally be  
entitled the final autopsy report?

A . Yes.

Q . And in some situations there  
is some form of a preliminary autopsy report in  
addition?





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A. I think there may be, it hasn't  
been my practice to do that, but I think some  
pathologists do.

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Q. And in the situation again  
of a coroner's autopsy case are copies first of the  
final autopsy report again retained indefinitely  
internal to the Pathology Department?

8

9

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A. Would you say that again.

Q. When it is a coroner's

autopsy as opposed to a parental consent autopsy.

11

A. Yes.

12

13

Q. Are copies of the final autopsy  
report again retained indefinitely within the  
Pathology Department at the Hospital?

14

A. Yes.

15

16

17

18

19

Q. And similarly are copies of  
the kind of document you have in front of you, that  
is entitled "Results of Postmortem Examination", is  
that document as completed and sent to the Coroner's  
office, is a copy of that kept indefinitely within  
the Pathology Department at the Hospital?

20

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A. I believe these copies are  
kept in the file with the pathologist rather than  
the files of the department, but that may also vary  
from pathologist to pathologist.

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Q. Thank you, Doctor. Again when a coroner's autopsy is being conducted, Doctor, do the practices which you previously outlined as to the types of information that are available to the pathologists before the autopsy is conducted, do they vary in any respect when it is a coroner's autopsy?

A. Yes. If the coroner's autopsy is on a child that has died within the hospital then that chart is available for perusal. However, if the child died outside of the hospital and it was then transferred to the Hospital for Sick Children for an autopsy, then there may be little or no history available other than what is provided on the Coroner's Warrant.

Q. But if it is a child that has died at the Hospital for Sick Children, I take it the normal rules would apply, that is you would have the medical record available to you as the pathologist who is to perform the autopsy and that would be reviewed by the resident before the autopsy was commenced?

A. No, that is not correct.

Q. All right, can you help me as to what the procedures are?

A. In a medical/legal autopsy the





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autopsy is performed by the staff pathologist not  
by the resident.

4

that the staff pathologist, if the patient had died  
at the Hospital for Sick Children, would have the  
medical record of the child available for inspection?

7

A. That is correct.

8

Q. And in your experience, Doctor,  
in performing and carrying out coroner's autopsies,  
is that record reviewed before the autopsy is  
commenced?

11

A. Yes.

12

Q. Doctor, again dealing with  
coroner's autopsies, can you simply help me as to  
the distribution of copies of the results of the  
postmortem examination.

16

You have told us that a copy of  
postmortem results goes obviously to the Coroner's  
offices; and that the individual pathologists  
involved maintain a copy of that document as completed  
in his or her files in the Pathology Department.  
Does anyone else, assuming that the child died in  
the Hospital for Sick Children, does anyone else as  
a routine matter receive a copy of those results?

23

A. No.

24

25





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2

THE COMMISSIONER: Can you change  
that question by taking out "routine". Does anybody  
else ever get a copy?

3

4

THE WITNESS: No.

5

6

THE COMMISSIONER: At least not from  
that Pathology Department?

7

8

THE WITNESS: No, not as far as I am  
aware of.

9

10 MS. CRONK: Q. And with respect to  
the final autopsy report that is prepared, as  
11 distinct from the results of the postmortem examination  
12 form; once again I assume that is sent to the  
Coroner's office by the involved pathologist?

13

A. Yes.

14

Q. Is a copy, where the patient  
has died in the Hospital for Sick Children, is a  
copy of it also sent to the Medical Records Department  
of the Hospital?

15

A. A copy of the ---

16

Q. An autopsy report.

17

THE COMMISSIONER: Before we answer  
that question, I thought, didn't you say that generally  
in coroners' cases there is only one report, isn't  
that right? Is there a preliminary report?

18

MS. CRONK: I understood him to say too,

19

20





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14

1 Mr. Commissioner, but I may be mistaken.

2  
3 THE COMMISSIONER: Let us have the  
4 witness which is correct.

5  
6 THE WITNESS: Some pathologists prefer  
7 to do a preliminary report as a guideline to the  
final report, which remains in their files and it  
is not distributed anywhere.

8  
9 THE COMMISSIONER: The coroner doesn't  
get a preliminary?

10  
11 THE WITNESS: No, the coroner does  
not get a preliminary report in written form, he  
may get - usually there is some telephone conversations.

12  
13 MS. CRONK: Q. I was distinguishing,  
14 and perhaps inappropriately, Mr. Commissioner, between  
15 the formal document that is entitled "Coroner's Act  
16 Results of Postmortem Examination", that is one kind  
17 of document that we know is completed on a coroner's  
autopsy and a final autopsy report.

18 MR. ORTVED: Are you talking about  
19 results recorded on postmortem examinations?

20 MS. CRONK: Yes I am. I am  
distinguishing between that and ---

21 THE COMMISSIONER: Distinguishing  
22 between that and what?

23 MS. CRONK: And what we have seen

24

25





15

1                   entitled "Final Autopsy Report".

2  
3                   THE COMMISSIONER: Those final autopsy  
4                   reports are internal documents at the Hospital for  
5                   Sick Children?

6  
7                   MS. CRONK: That's right.

8  
9                   THE COMMISSIONER: Whereas this is  
10                  a coroner's document.

11                  THE WITNESS: That is right.

12                  THE COMMISSIONER: Which goes to the  
13                  coroner, and that as I understand it is all that he  
14                  gets from the Pathology Department, isn't that right?

15                  THE WITNESS: That's right.

16                  THE COMMISSIONER: He doesn't get a  
17                  final or a preliminary?

18                  MS. CRONK: That is what I was trying  
19                  to find out, Mr. Commissioner.

20                  THE WITNESS: No, he does not.

21                  MS. CRONK: Q. As I understood your  
22                  evidence, Dr. Becker, even though it is a coroner's  
23                  case, and the report goes to the Coroner's office  
24                  after it has been completed, there are some situations  
25                  where in addition internal to the Pathology Department  
                      a final autopsy report is prepared as a separate  
                      document?

26                  A.           Yes, in the Pathology Department





16

1  
2 it is not on the chart.

3 Q. My question, awkwardly put  
4 perhaps, was when that is completed does a copy of  
5 that go to the Medical Records Department of the  
6 Hospital if the patient involved was one who had died  
7 at the Hospital?

8 A. My understanding is it does  
not go to the medical chart.

9 THE COMMISSIONER: I don't quite under-  
10 stand why you have this document, why do you do that.  
11 You are reporting to the coroner, would you not report  
12 your final report to the coroner?

13 THE WITNESS: Well the final report  
14 is the same except the form is different just so that  
it fits into our books in terms of record.

15 THE COMMISSIONER: It is exactly the  
16 same document then really?

17 THE WITNESS: Yes it is the same  
18 document with the same reference.

19 THE COMMISSIONER: But you keep a copy  
20 for yourselves?

21 THE WITNESS: Yes.

22 THE COMMISSIONER: I can understand that.

23 THE WITNESS: Yes.

24 THE COMMISSIONER: As a coroner's matter

25





17

1  
2 you send the report to the coroner and you don't send  
3 it to anybody else?

4 THE WITNESS: That's right.

5 THE COMMISSIONER: If it is an internal  
6 matter you send it all over, that is, I don't mean  
7 to strangers but to doctors?

8 THE WITNESS: That is correct.

9 THE COMMISSIONER: Now is there some  
10 other subtlety that I have missed about this, is there  
11 something you want to bring out?

12 MS. CRONK: Q. Again I might have  
13 been doing it awkwardly, sir. I thought there were  
14 two kinds of documents that were routinely completed  
15 on a coroner's autopsy in the hospital. One that  
16 was kept internal to the hospital called the final  
17 autopsy report.

18 THE COMMISSIONER: That is exactly  
19 the same document except it may be on their form  
20 as opposed to this form.

21 MS. CRONK: That's right. The only  
22 point was ---

23 THE COMMISSIONER: But you are not  
24 concealing something from the coroner?

25 THE WITNESS: No I don't think so.

MS. CRONK: I wasn't intending to suggest





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18           that, sir.

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THE COMMISSIONER: No.

3

MS. CRONK: My only curiosity sir,

4

was whether because that second report is completed,  
whether that found its way into the Medical Records  
Department. Because we know Dr. Becker has told  
us that a copy of the one that goes to the coroner  
does not without the authority of the coroner.

5

THE COMMISSIONER: Right.

6

Q.       And I take it that doesn't

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happen?

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/BB/ak

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2 MS. CRONK: Q. And I take it that  
3 doesn't happen?

4 A. No. These arrangements were  
5 made between the Pathology Department at the coroner's  
6 office I believe some years ago.

7 Q. All right, thank you, Doctor.

8 Doctor, could we turn now then if we  
9 may to the question of Sudden Infant Death Syndrome.  
10 There has been, as you will appreciate, some consider-  
11 able evidence led before the Commissioner with respect  
12 to that condition. It has been suggested in evidence  
13 during the course of cross-examination of Dr. Rose  
14 as it happens that pathologists at the Hospital for  
15 Sick Children perform all autopsies on children  
16 in Toronto who are suspected of dying of Sudden  
17 Infant Death Syndrome. Does that accord with your  
18 understanding of the situation, Doctor?

19 A. Yes.

20 Q. All right. It has also been  
21 suggested that pathologists at the Hospital for Sick  
22 Children have, because of that, perhaps the most  
23 experience in this province in conducting post mortems  
24 on SIDS victims. Again, may I ask you, does that  
25 accord with your understanding of the situation?

A. Yes. It is a very unusual





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situation to have a large city like Toronto with all  
of the autopsies on Sudden Infant Death Syndrome  
being done at a pediatric hospital. I don't think  
this situation exists perhaps anywhere in the world,  
or very few places in the world.

6

7

8

Q. Is there any particular reason  
for it, Doctor?

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A. In the United States most of  
the autopsies are done in other situations, they are  
not done at the pediatric hospital.

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Q. All right. Doctor, we have  
heard that you have a special interest in Sudden  
Infant Death Syndrome. Can you help me, does it  
flow from the fact that the pathologists at the  
Hospital for Sick Children perform all of the  
autopsies in the City of Toronto on a suspected SIDS  
victims that you would be involved in a great  
number of those autopsies given your special interest  
in the area?

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A. I would be involved in all of  
the children that died of Sudden Infant Death  
Syndrome in terms of certain aspects of the examination.

THE COMMISSIONER: I'm sorry, I didn't  
hear what your special interest was. That I take it





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comes from your curriculum vitae, is that where we  
get that from?

4

MS. CRONK: Yes.

5

THE COMMISSIONER: All right, thank  
you.

6

MS. CRONK: And the doctor told us  
yesterday afternoon that he did have a special  
interest in that area.

7

THE COMMISSIONER: All right.

10

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MS. CRONK: Q. I'm sorry,  
Dr. Becker, you were about to explain in what  
circumstances you would be involved in autopsies  
on SIDS victims in the Hospital.

14

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A. Well, because of my interest  
in Sudden Infant Death Syndrome I would be looking  
particularly at the neuropathological aspects of  
all of the children that have died of Sudden Infant  
Death Syndrome.

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22

Q. Would you then, Doctor, because  
of that interest and because of your experience and  
interest in the neuropathologic aspects, would you  
then be aware of every autopsy conducted in the  
Pathology Department on a suspected SIDS victim?

23

24

25

A. Pretty well, yes.

Q. All right. Can you help us,





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2 Doctor, and I don't know if you are able to, but can  
3 you help us with an approximation as to how many  
4 autopsies on SIDS victims would have been conducted  
5 in the period in which we are interested, July, 1980  
6 through to March of 1981, or do you have the figures  
7 available on that?

8 A. Well, I could put that in to  
9 some perspective according to the following figures.  
10 If we look at the number of deaths due to Sudden  
11 Infant Death Syndrome from 1973 to 1982 there were  
12 421 children dying with Sudden Infant Death Syndrome.  
13 The number per year would vary from year to year  
14 from a low of 27, which was in 1981 to a high of  
15 51 per year, which was the situation in 1973 and  
16 1974. This number of autopsies on average represented  
17 about 10 per cent of the number of autopsies in any  
18 one year at the Hospital for Sick Children.

19 Q. Doctor, we know that you have  
20 been at the Hospital for Sick Children as a senior  
21 pathologist since 1974. Can you help me, Doctor,  
22 I am interested for the moment in autopsies conducted  
23 on patients who died at the Hospital for Sick  
24 Children and where death was attributed to SIDS, can  
25 you help me, do you have any information based on  
your experience as to how many patients on average in





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a year would have their deaths attributed to SIDS  
having died in the Hosiptal for Sick Children?

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A. No, I don't have those figures  
per year but I do have a figure for the 10-year period  
of time that we're talking about and we had 24 babies  
die in the Hospital with the diagnosis of Sudden

5

Infant Death Syndrome.

6

7

Q. And that's from 1973, Doctor,

8

through to 1980...?

9

10

A. 1982.

11

12

Q. 1982. Thank you. Doctor, we  
have heard as well reference in the evidence of other  
witnesses to two different terms; the first being  
missed-SIDS and the second SIDS. Can you help me  
first, Doctor, what do you understand the term  
missed-SIDS to refer to?

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more than one episode with or without recovery.

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Q. All right. If we have then a child, Doctor, who has had a history, or at least had an observed condition during life of an episode, one or more of apnea and that child ultimately dies and the death is attributable to this syndrome, is the terminal diagnosis in respect of that child missed-SIDS or SIDS from a pathological point of view?

A. Well, from my perspective I am very anxious that we identify this child that has had apnea prior to death so that I would designate that child separately as a missed-SIDS or a missed Sudden Infant Death Syndrome type of Sudden Infant Death Syndrome.

Q. All right. And that would be a terminal diagnosis in a case where you knew that a period of apnea, one or more periods of apnea had been observed in the child during life. That would be your terminal diagnosis, missed-SIDS?

A. Right.

Q. All right. Would I be correct then, Doctor, in inferring from that that as a pathologist the terminal diagnosis of SIDS per se as distinct from missed-SIDS would be attributed to





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a child felt to have died of that syndrome although there had been no observed periods of apnea during life.

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A. Could you rephrase that again, please.

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THE COMMISSIONER: I didn't understand that either.

9

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MS. CRONK: Q. All right. You have told me, Doctor, that in situations where a child was observed during life to have had one or more periods of apnea and dies under circumstances which are attributable to this syndrome, as a pathologist your terminal diagnosis would be missed-SIDS. Do I have that correctly?

15

A. Yes.

16

17

Q. All right. Are there situations where your terminal diagnosis would be SIDS as opposed to missed SIDS?

18

A. Yes.

19

Q. All right.

20

A. In those situations where there is no such history.

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Q. All right. So, where there had been no observed condition of apnea during life but a child's death was felt to be attributable to





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SIDS, as a pathologist your terminal diagnosis would  
be purely and simply SIDS?

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A. Yes.

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Q. All right.

5

THE COMMISSIONER: What do you call  
it when there is a total miss and no death at all,  
do you just call it apnea I suppose?

6

MS. CRONK: Life.

7

THE WITNESS: Well, these children  
are still referred to in many situations as near  
miss for Sudden Infant Death Syndrome.

8

THE COMMISSIONER: Near missed-SIDS.

9

THE WITNESS: Near miss or missed  
Sudden Infant Death Syndrome; the two terms are used  
interchangeably.

10

THE COMMISSIONER: Well then that is  
what is going to cause us some problems because we  
won't know whether a missed-SIDS baby is alive or  
dead. That's a real problem. I would have thought  
that a missed-SIDS was a, if I can use this unfortunate  
term, but an unsuccessful death, that it was a survival  
case, but it isn't, it is a terminal case and it is  
called missed-SIDS because there was a previous  
episode of apnea.

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THE WITNESS: Yes.

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THE COMMISSIONER: Well now if there is an episode of apnea, taking just for example the Hines child there currently was one instance at home where the child was found by the mother to be not breathing, she picked it up and it breathed. Now, if the Hines child had lived forever, what would you have called that, how would you have referred to that case?

THE WITNESS: That case would be referred to as a missed Sudden Infant Death Syndrome and that's how the term came about. But what I am trying to say is that for me as a pathologist it is important to designate this particular sub-type of Sudden Infant Death Syndrome in order to determine the particular mechanism of death in that sub-type of Sudden Infant Death Syndrome. The term originally arose because of the clinical findings of a period of apnea with recovery. So, the term was initially established on the basis of the clinical phenomenon.

MS. CRONK: Mr. Commissioner, I think the point of sufficient importance that it be made very clear if we can, would this be ---

THE COMMISSIONER: I don't have any trouble with it now.

MS. CRONK: All right.





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THE COMMISSIONER: I haven't got any trouble with it now. All I know is that from now on when anybody uses missed-SIDS I won't have the faintest idea whether the child lived or died.

MS. CRONK: Well then may I put this question to the Doctor.

THE COMMISSIONER: Yes.

MS. CRONK: Q. Is there a difference, Doctor, in your view between describing a child's condition during life as missed-SIDS, would that be considered a clinical diagnosis if there was an episode during life which was felt to be attributable to SIDS, that would be described as missed-SIDS?

A. Yes, that term could be used in a clinical situation.

Q. All right. And that would apply to the situation that the Commissioner described, that we understand happened with the Hines child, the episode at home where the child experienced shallow - stopped breathing, period of apnea, the mother picked the child up, shook the child and the child started to breathe again. The clinical diagnosis at that point would be missed-SIDS?

A. That is correct.

Q. All right. And in addition to





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that, I take that in your view there is as well a terminal diagnosis which can be made in appropriate cases called missed-SIDS?

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A. Yes, but it is really from a personal perspective in terms of my feeling that this is an important group to categorize that way.

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Q. I understand that, Doctor. I am interested in knowing how you regard the appropriateness of the diagnosis of SIDS and missed-SIDS. So, I take it in your mind there is a distinction then between the clinical diagnosis of missed-SIDS and a terminal diagnosis of missed-SIDS?

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A. No, there is not a difference really.

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Q. I may be making it worse, Mr. Commissioner.

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THE COMMISSIONER: No, he is a pathologist and he is concerned about dead children, dead children who have had a previous episode he calls missed-SIDS, those who have what he calls SIDS. He doesn't really care that much what the other people who are dealing with live children may call it. I understand that it started, the missed-SIDS started as it should have, linguistically speaking, as one who missed death.





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THE WITNESS: That's correct.

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THE COMMISSIONER: Under this Sudden  
Infant Death Syndrome. Now, as far as the pathologists  
are concerned a missed-SIDS is somebody who escaped  
the first time, or maybe the first second or third  
but didn't escape the last.

5

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THE WITNESS: Yes.

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MS. CRONK: I think we are there,  
Mr. Commissioner, I'm grateful, thank you.

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THE COMMISSIONER: Yes, all right.

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MR. ORTVED: I don't want to confuse  
the matter further.

13

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MS. CRONK: Mr. Ortved doesn't think  
we are.

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THE COMMISSIONER: Please don't,  
it took me a long time to get that. Do you want to  
change it now?

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MR. ORTVED: No. I'm just wondering  
whether it might be appropriate, and maybe Ms. Cronk  
is just about to do this, to ask Dr. Becker at this  
point in time whether a child who had a history of  
missed-SIDS, whether the pathological findings would  
be different.

MS. CRONK: I haven't sat down yet,  
Mr. Ortved, I'm still here.





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THE COMMISSIONER: If he had a history of missed-SIDS it would clearly be, the pathological finding would be missed-SIDS, that's what he said.

MS. CRONK: Well, Mr. Commissioner, lest we anticipate the evidence of the good Doctor that was indeed the area that I was about to move into.

THE COMMISSIONER: Well, I thought that was just what he has been telling us, am I wrong? If you want to put the question again you can do it, I don't mind that, but I think ---

MS. CRONK: I think it may very well lead to a more expansive answer, Mr. Commissioner.

THE COMMISSIONER: All right.

MS. CRONK: Q. The question, Dr. Becker, that Mr. Ortved suggests and I agree might be appropriate at this stage, is that in a situation where the diagnosis or the cause of death that is described in a final autopsy report is one of missed-SIDS, are there in your experience certain pathological findings or indicia of that condition that you would expect to be able to observe at autopsy?

A. Yes.

Q.: All right. Can you help me as





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2 to what they are, Doctor?

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A. The fact that the child is designated as a missed Sudden Infant Death Syndrome implies, as we talked about, the apneic spells and associated with those apneic spells we assume that there is some chronic hypoxia. The changes that we see at post mortem indicate chronic hypoxia, that is, changes that have been present for several weeks. I can be specific if you would like in terms of the changes that we do see.

Q. All right. Well, dealing then first, Doctor, with the findings that are suggestive of chronic hypoxia. I take it that there are particular pathological findings that we would expect to see as indicators of that condition of chronic hypoxia?

A. Yes.

Q. At autopsy. Can you help us, Doctor, as to what those principally, what the principal findings are that you would expect to see?

A. Well, because of the investigation in Sudden Infant Death Syndrome you will find a number of features that have been mentioned in the pathology literature. Some of these are confirmed and some of these are unconfirmed. What I mean by





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that is that the confirmed findings are those that have been reported by at least two separate groups reported in a journal that is being peer reviewed.

If we look at the pathological findings from that perspective, then there are basically four. Those include the brain stem astrogliosis.

THE COMMISSIONER: Just a moment, please. These are findings in missed-SIDS cases, is that what you are telling us?

THE WITNESS: Yes.

THE COMMISSIONER: Missed SIDS.

THE WITNESS: Missed-SIDS or they can also be found in other children where it is assumed they had apneic episodes but they weren't identified.

THE COMMISSIONER: All right. Are these peculiar to missed-SIDS or are these symptoms, or at least findings that you will discover in SIDS as well?

THE WITNESS: They can be found in Sudden Infant Death Syndrome as well as in the missed category of SIDS.

THE COMMISSIONER: Yes, all right.

THE WITNESS: But they are found with a higher percentage in the missed Sudden Infant





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Death Syndrome.

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THE COMMISSIONER: Yes, all right.

3

MS. CRONK: Q. Doctor, just so that I am clear as well. Is there yet another consideration that we should keep in mind and that is that the findings that you are about to describe are indicia of chronic hypoxia, changes in the body observable at autopsy attributable to chronic hypoxia?

4

A. Yes.

5

Q. All right. And what are those

6

findings, Doctor, in your view?

7

THE COMMISSIONER: Well, that last question defeated me. I'm sorry, I'm interfering far too much today.

8

Chronic hypoxia does not necessarily produce either SIDS or missed-SIDS, does it?

9

THE WITNESS: No, that's correct.

10

THE COMMISSIONER: And you can go through life with that and survive and perhaps get cured, I would think, can you not? It is a disease, it is the lack of oxygen.

11

THE WITNESS: Yes.

12

THE COMMISSIONER: That's flowing through from the heart, isn't that the problem?

13

14





D17

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THE WITNESS: Yes.

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THE COMMISSIONER: Well then ---

3

4 THE WITNESS: The other factor though  
5 is the age of the child, we are talking about a  
6 specific age of vulnerability.

7

THE COMMISSIONER: Well, Ms. Cronk  
8 was putting it to you, as I understand it, that what  
9 you are about to tell us about the usual findings  
10 with missed-SIDS and as a subdivision of SIDS, you  
11 outline them and then you were asked are these also  
the findings that you get in chronic hypoxia?

12

MS. CRONK: I may be able to be clearer,  
13 Mr. Commissioner.

14

THE COMMISSIONER: I am not so much  
15 interested in the answer as I am in the question.  
16 Why did you ask the question?

17

MS. CRONK: Let me be clear.

18

Q. As I understand it, Dr. Becker,  
19 if one were to describe the pathological findings  
20 that one would expect to see at autopsy in a case  
21 of missed-SIDS, they might fall into two categories:  
22 one is indicia of a condition that would be regarded  
as chronic hypoxia.

23

A. What does that word mean,

24

indicia?

25





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Q. I'm sorry, indicators.

3

A. Indicators.

4

Q. Indicators, features that suggest chronic hypoxia. As I understood it there is a category of pathological findings that suggest chronic hypoxia and those, if they are present, would lead the pathologist to think of missed-SIDS?

5

6

A. Yes.

7

8

Q. Am I correct on that?

9

A. Yes, that's right.

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Q. And as well as I understood it there are a different grouping of pathological findings that a pathologist might observe at autopsy that would as well be suggestive of missed-SIDS, but they are not associated with chronic hypoxia, they might more appropriately be described as acute or dramatic changes in certain organs of the body. They are not associated with hypoxia but are of and in themselves suggestive of missed-SIDS. Do I have that correctly?

THE COMMISSIONER: What's the advantage of bringing hypoxia into this equation at all?

MS. CRONK: I thought the Doctor said that, when I first asked him what he would





D19

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expect to see by way of pathological findings as an indicator of missed-SIDS he said changes consistent with chronic hypoxia.

5

THE COMMISSIONER: I see.

6

7

MS. CRONK: I understood that to be his answer. If I am incorrect in that then I am unduly labouring with this.

8

THE COMMISSIONER: Is that right, Doctor, is that what you said?

9

THE WITNESS: Yes.

10

11

12

THE COMMISSIONER: So, that is why we are going into this chronic hypoxia?

13

THE WITNESS: Yes.

14

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THE COMMISSIONER: I wonder though if you could and it is just for me and after you have done that you can do anything you want for yourself, but just for me will you tell me what the findings usually are with missed SIDS. Just ignore the question of chronic hypoxia. If those are part of the symptoms you will have to include that. Do you understand?

21

THE WITNESS: Yes.

22

THE COMMISSIONER: I just want to know, all right.

23

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THE WITNESS: The characteristic





D20

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findings in missed Sudden Infant Death Syndrome are  
the following four: the first is brain stem  
scarring or brain stem astrogliosis, but it is more  
than just defused brain stem scarring, it is brain  
stem scarring in a particular area of the brain stem.  
The brain stem is an important part of the brain in  
which the centres of control for both cardio and  
respiratory function preside.

9

So, the first observation is gliosis  
or scarring in the brain stem.

11

The second finding is extra-medullary  
hematopoiesis and what that means is that normally  
blood is formed within the bone marrow but under  
situations where there is hypoxia other areas of  
the body may also produce blood cells, like the  
liver or spleen or other organs, and that is what  
is meant by extra-medullary hematopoiesis.

17

THE COMMISSIONER: What is that last  
word?

19

THE WITNESS: Hematopoiesis, I can't  
spell that.

21

MS. CRONK: I can spell it, Doctor,

I can't pronounce it. It is h-e-m-a-t-o-p-o-i-e-s-i-s.

22

23

24

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E  
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THE COMMISSIONER: And that is other areas producing blood besides the heart?

4

THE WITNESS: Besides the bone marrow.

5

THE COMMISSIONER: Producing --

6

THE WITNESS: The heart doesn't produce the blood. It circulates the blood.

7

THE COMMISSIONER: No.

8

THE WITNESS: Bone marrow is what --

9

THE COMMISSIONER: Other areas producing blood besides the bone marrow?

11

THE WITNESS: That is correct.

12

THE COMMISSIONER: What is the effect of that?

14

THE WITNESS: It has no effect on function. It is just an indicator of hypoxia.

15

THE COMMISSIONER: Oh, I see.

16

MS. CRONK: Q. Perhaps if I can interrupt, we are now at the second indicator in your view, Doctor?

19

A. Yes.

20

Q. And on that one, as I understand what that means, it is really the production of blood cells in a location in the body where you wouldn't otherwise expect to see it?

23

A. Yes.

24

25





E.2

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2 Q. Outside of - for example, it  
3 could be in the liver and that would be unusual?

4 A. Yes.

5 Q. And it could be in --

6 THE COMMISSIONER: By itself it does  
7 no harm? The more blood you have the better? Is that  
the approach?

8 MR. LAMEK: As long as you have enough.

9 THE WITNESS: Yes, as far as I know.

10 THE COMMISSIONER: Yes. All right. Fine.

11 MS. CRONK: Q. And the third finding,  
12 Doctor?

13 A. Would be a thickening of the  
14 blood vessels in the lung, the arteries in the lungs  
15 which are also found in situations of chronic hypoxia.

16 Q. And the fourth indicator, Doctor?

17 A. Is the preservation of fetal fat  
or brown fat.

18 Q. Now amongst that category are  
19 findings, Doctor, you have told us that there are  
20 some confirmed pathological findings that are  
21 indicative of missed-SIDS and some that you would  
22 regard as being unconfirmed.

23 I take it these four are in your view  
24 based on your experience and in your judgment confirmed

25





E.3

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2 pathological findings of missed-SIDS?

3 A. Yes.

4 Q. Are there any others which based  
5 on your experience and your knowledge of the  
6 literature are in the category of confirmed findings  
7 suggestive of missed-SIDS other than the four you  
have just outlined?

8 A. There are other things that have  
9 been reported once and not reported twice, and those  
10 include changes, for example, in the carotid body.

11 Q. I am sorry?

12 A. Changes, for example, in the  
carotid body.

13 Q. That is in the neck?

14 A. That is in the neck, yes.

15 Q. Yes.

16 A. And it is important as a - it is  
17 called a chemoreceptor but its role is to adjust the  
breathing according to the metabolism of the blood.

19 In other words, if there is too much  
acid in the blood then this carotid body is going to  
20 react and influence the respiratory system. So it is  
21 a monitor of blood metabolism in layman's terms.

22 Q. All right. And is there something,  
23 as well, Doctor, about what might be regarded as

24

25





E. 4

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2 abnormal proliferation of fibres in the brain? Is  
3 that something that you would recognize as being  
4 a pathological finding suggestive of missed-SIDS?

5 A. I have already mentioned that  
6 when I talked about the brainstem astrogliosis.

7 Q. Yes.

8 A. Essentially that is what is  
9 happening in that situation. The scarred cells  
produce excess fibres.

10 Q. So we are talking about two  
11 aspects in respect of the first finding? One is  
12 scarring in a particular area of the brain. That is  
13 what I understood gliosis to refer to?

14 A. Yes.

15 Q. But in addition the accumulation  
16 of what would be regarded as an abnormal amount of  
17 fibres associated with the scarred area?

18 A. The two are related because the  
scar is formed by the cells that are producing fibres.

19 Q. All right.

20 THE COMMISSIONER: I have so far got  
21 only one of these other findings which are reported  
22 only once, and that is the change in the neck.

23 Have you given us anything else?

24 THE WITNESS: It is also a report of

25





E.5

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2 the right side of the heart being hypertrophic or  
3 large.

4 THE COMMISSIONER: Right side of?

5 THE WITNESS: That has been reported  
6 once, and then another investigator has not found the  
7 same findings. That is why it is in the unconfirmed  
8 category.

9 Another unconfirmed category is the  
10 so-called fatty change in the liver which has been  
described by one group in England.

11 MS. CRONK: Q. Fatty change?

12 A. Yes, in the liver.

13 THE COMMISSIONER: And what do you mean  
14 by fatty change? It has got fatter or?

15 THE WITNESS: No, I mean if you looked  
16 at the cells in the liver you could detect more fat  
17 than normal, and that could be done by specifically  
18 staining for fat, and it would give it a bright red  
colour.

19 THE COMMISSIONER: Yes. All right.

20 Anything else?

21 THE WITNESS: There are also changes  
22 in the adrenal gland which have been described some  
time ago and not been confirmed.

23 There are also changes in the brain

24

25





E. 6

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2 that have been described called subcortical leukomalacia.

3

Q. What is that?

4

A. Leukomalacia, l-e-u-k-o-m-a-l-a-c-i-a.

5

Q. Can you describe that so that a

6

layperson might be able to understand it?

7

A. It is a small area of damage to  
the brain found in specific areas of the brain, and  
our group is the only one that has found that, but  
that hasn't been confirmed yet.

10

11

Q. Your group meaning a research  
group --

12

A. Yes.

13

Q. -- at The Hospital for Sick  
Children?

14

A. Yes.

15

Q. And did you participate in that  
research?

17

A. Yes.

18

Q. Is there anything else, Doctor?

19

A. Yes. There are other findings  
that are really in a research category in the sense  
that they are outside the confines of a standard  
autopsy.

22

Q. In other words, when we are talking  
about Sudden Infant Death Syndrome we are talking

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E.7

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2 about a standard autopsy, and those features that  
3 are outside - those things that have been found that  
4 are outside of a standard autopsy would include  
5 things that involve very special time consuming  
6 techniques. For example, looking at the carotid  
7 body which I have just mentioned, bioelectron  
8 microscopy. That is a valuable thing to do, but it  
9 would be in the research category rather than in the  
category of a standard autopsy.

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Likewise, looking at the neurons that control respirations in the brainstem, they can be looked at too directly with special stains which we have done. But these too are very time consuming and they go on for weeks and even months, and they would be outside of the standard autopsy.

Another example is looking at the

vagus nerve. The vagus nerve is a very important nerve because it sends fibres to the heart and lungs, and we have found abnormalities in that nerve. But again that is a research area and we have to count tens of thousands of fibres to find an abnormality.

MR. OLAH: I am sorry, Mr. Commissioner, perhaps the witness could describe where the vagus nerve is located?

THE COMMISSIONER: Where what?





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MR. OLAH: Where the vagus nerve is located?

THE WITNESS: The vagus nerve arises from the brainstem, arises from an area in the brainstem that is very close to the area of scarring that we find in these children.

This nerve then passes out of the brainstem, passes out of the skull, passes down the neck and into the thorax and into the abdomen, so it has a very diffuse distribution.

MS. CRONK: Q. Doctor, you have described three types of investigation that could be undertaken in a research sense to determine whether or not the results of the investigation would be suggestive of missed-SIDS.

You have also described for us by my count nine pathological findings which are suggestive or indicative of missed-SIDS on the basis of a standard and routine autopsy.

Do I have that correctly?

A. Yes.

THE COMMISSIONER: Four confirmed and five non-confirmed?

THE WITNESS: Yes.

MS. CRONK: Q. With respect to the five





K.9

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2 that are unconfirmed in the literature in the sense  
3 that they have not been mentioned as you have  
4 described it more than once in the literature, Doctor,  
5 in your judgment based on your experience are any  
6 of those five features which you would consider to be  
7 preconditions for a terminal diagnosis of missed-SIDS?

8 A. No. I would want to use those  
things that had been confirmed.

9 Q. Right.

10 A. Unless I were doing a scientific  
study to observe those things that had been unconfirmed,  
11 but in terms of a diagnosis I would not use those.

12 Q. All right. And that is my next  
13 question, Doctor: of the four main features that  
14 you have described to us, in your judgment based on  
15 your experience, are each of those four preconditions  
16 for a terminal diagnosis of missed-SIDS based on a  
17 routine autopsy?

18 A. They would be precondition -  
19 those would be preconditions for the diagnosis of  
20 missed Sudden Infant Death Syndrome.

21 Q. Yes.

22 A. Yes.

23 Q. Do I take it from the manner in  
24 which you phrase that response that they would not be

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K.10

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preconditions for a terminal diagnosis of SIDS?

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A. That is correct. They may or  
may not be present in that situation.

5

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Q. Now, Doctor, again dealing with  
the issue of missed-SIDS I take it that reaching a  
conclusion as a pathologist after a routine autopsy  
that a patient had died of missed-SIDS, if that became  
the terminal diagnosis from your perspective, it  
would be important to you to know as much as you  
could of the clinical history of the patient during  
life?

12

A. Yes, that is true.

13

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Q. In terms of the desirability from  
your perspective as a pathologist in being made aware  
of the clinical history or the medical conditions of  
the child observed during life, are there factors  
or indicators which occur during life which you look  
for as being significant in terms of conducting a  
routine autopsy and arriving at a terminal diagnosis  
of missed-SIDS?

20

21

22

23

Are there features from the clinical  
history other than periods of observed apnea that you  
told us about that you regard as being indicators of  
missed-SIDS?

24

25

A. No. I would rely on those two





K.11

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2 things for the diagnosis of Sudden Infant Death  
3 Syndrome.

4 There are other epidemiological  
5 features that have been described in association with  
6 Sudden Infant Death Syndrome, but I don't think that  
7 they can be really of assistance in a particular case.  
8 They may help. They may guide, but they wouldn't  
9 help me confirm a pathological diagnosis.

10 Q. When you referred to those two  
11 things, Doctor, and I had understood you to say  
12 earlier that obviously for a terminal diagnosis of  
13 missed-SIDS for a death in your view to be placed  
14 in that category, you would need to know - it would  
15 be a precondition that there had been observed  
16 periods of apneic episodes during life?

17 A. Yes, that is correct.

18 Q. Was there something else you  
19 regarded as being a precondition other than observed -  
20 an observed period or periods of apnea during life?

21 A. No.

22 Q. Right, Doctor.

23 We have heard something as well, Doctor,  
24 from the various clinicians, the cardiologists who  
25 have testified as to a prolonged QT interval which  
may or may not be observable by electrocardiogram  
examination.





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Is that something that you as a pathologist are concerned about when you are performing a routine autopsy and considering a terminal diagnosis of missed-SIDS?

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A. No, I would not be - I shouldn't say concerned about it, but it would be really in the area of a clinical diagnosis, and unless that were highlighted in the chart I as a pathologist would certainly not be able to determine whether there was any abnormality in the QT interval.

THE COMMISSIONER: No, but would it

be a finding or a system that you would find important --

MS. CRONK: Q. If it was there or not there, Doctor, would it have any significance --

THE COMMISSIONER: That you would find important in your diagnosis?

THE WITNESS: My diagnosis, no, would be based on the pathological findings and the apnea.

That factor of the abnormal QT interval would be taken into consideration in terms of trying to explain the cause of death. But the diagnosis of Sudden Infant Death Syndrome would not be based on that finding.

In other words, I am distinguishing





K.13

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2 between the diagnosis of Sudden Infant Death Syndrome  
3 and the cause of death in Sudden Infant Death Syndrome.  
4 In other words, the QT, prolonged QT interval, may  
5 be a factor in explaining the cause of death, but it  
6 is not part of the definition of Sudden Infant Death  
7 Syndrome, and therefore I would be making the  
8 diagnosis of Sudden Infant Death Syndrome on a  
9 pathological basis with that piece of clinical  
evidence of apnea.

10

MS. CRONK: Q. I understand, Doctor.

11

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In terms of what you perceive your  
role to be in performing a routine autopsy I take it  
first that the diagnosis itself is obviously something  
that you are responsible to make and to reach a  
conclusion on in performing the autopsy.

16

17

18

19

Are you as well concerned or do you  
regard it part of your responsibility in reporting  
upon an autopsy in a final fashion to draw conclusions  
or express an opinion as to the manner of death, the  
cause of death as opposed to the diagnosis?

20

A. Yes. We try to do that.

21

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Q. Well, given that that is something  
that you attempt to do, and consider to be part of  
the responsibility of reporting on the autopsy  
results, I take it that in that context as distinct





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from being able to reach and make a diagnosis, the  
existence or the non-existence of a prolonged QT  
interval during life would be of significance to you?

5

You would want to know whether it was  
there or wasn't? Do I have that correctly?

6

A. In terms of what, the diagnosis?

7

Q. Trying to explain how the child  
died. I understood you to say it is irrelevant for  
you for the purposes of diagnosis.

10

11

A. Yes. Right. It would be  
important in terms of the mechanism of death.

12

13

14

THE COMMISSIONER: Is that universally  
held, Doctor, that it is irrelevant to the finding  
of cause of death because we have heard before that  
the --

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16

MS. CRONK: From a pathological point  
of view, Mr. Commissioner.

17

THE COMMISSIONER: That is right.

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THE WITNESS: Sudden Infant Death  
Syndrome was defined that way purposely so that these -  
these children could come together under one umbrella  
and be investigated appropriately to subdivide  
different causes of death so that the definition was  
based on an essentially pathological diagnosis.

A thing like a prolonged QT interval





K.15

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2 would be looked upon as a Sudden Infant Death Syndrome  
3 cause of death perhaps related to this prolonged QT  
4 interval. The diagnosis would still be Sudden Infant  
5 Death Syndrome.

6

THE COMMISSIONER: Yes, all right.

7 MS. CRONK: Q. In your efforts, Doctor,  
8 to explain how the patient died, again leaving aside  
9 your ability to make a diagnosis and the factors  
10 which are important to you there, in searching for  
11 an explanation as to how the child died other than  
12 the existence or non-existence of a prolonged QT  
13 interval, are there other features from the clinical  
14 history of the patient that are of importance to you  
15 that you look for?

16

A. There would be a variety of  
17 factors, of course, in any particular case in terms  
18 of the question you have asked. There are a variety  
19 of factors, yes.

20

Q. All right. Are there certain  
21 medical conditions or events observable during life  
22 which you regard as being important in order to be  
23 able to explain the death of a missed-SIDS victim?

24

A. Well, the most important thing  
25 in my view to rule out would be an infection because  
infections can often be very subtle.





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Q. Anything else, Doctor, that you would particularly wish to rule out or that you would particularly wish to confirm?

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A. Well, other than the infection, the area that I would be looking at to explain a Sudden Infant Death Syndrome would be other things that could cause chronic hypoxia because the pathological findings suggested there was hypoxia. So one suggests then that apnea is one explanation, but there may be other explanations for chronic hypoxia.

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For example, congenital heart disease might be an example of a situation where chronic hypoxia could exist in a child of that age.

Q. And you would want to rule that out?

A. And I would want to rule that out.

Q. In terms of considering what features, and there may be none, Doctor, what features you would wish to confirm as being present or at least know whether or not they were observed during a particular patient's life, would, for example, evidence of failure to thrive or weight loss, trouble with feedings, be of interest to you? Would it be important to you to observe that in a child's chart?

A. As I mentioned to you before,





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those are epidemiological features that have been described in Sudden Infant Death Syndrome in large numbers of cases, but they wouldn't influence my opinion in terms of the diagnosis.

They may support it or they may detract from it, but my diagnosis would have to rest on features that I have mentioned, the pathology primarily with the consistent clinical story.

These other features would be important in a secondary way, but not in a primary way in terms of making a diagnosis.

Q. I understand that, Doctor, in terms of making a diagnosis. I was directing my mind towards your ability to explain how the child or how the patient died. And in that respect other than the factors that you have mentioned to us, that is wishing to be able to rule out infection, wishing to be able to rule out conditions which might cause chronic hypoxia, and wishing to be informed as to whether or not there was a prolonged QT interval, and trying to explain how the patient died, are there any other features from the child's condition during life that are of significance or importance to you as a pathologist?

A. Well, that is a very hard





K.18

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2 question to answer. I mean I think it somehow has  
3 to be made more specific.

4 Q. All right. Well, Doctor, if I  
5 can help you with that and I will be brief on this  
6 particular point, Mr. Commissioner.

7 THE COMMISSIONER: Yes, all right.

8 MS. CRONK: Perhaps then we can take  
our break.

9 Q. There is some suggestion in the  
10 literature with which some of us are aware that if  
11 there is an upper respiratory infection in the week  
12 prior to the death of the patient that may be  
13 something of relevance to a pathologist in explaining  
14 how the child died.

15 Is that your view?

16 A. Yes. I had mentioned that  
17 infection was one of the important things that I  
would be interested in in this syndrome, yes.

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Q. And it is evidence of that particular kind of infection at that time, and that is in the week prior to the death of the child, is that significant in your view?

A. Yes, it is important in terms of a hypothesis of mechanism of death. Because the hypothesis is this age incidence of sudden infant deaths implies a vulnerable period, and some children during this vulnerable period may not be exposed to any such insult like an infection and then pass through this vulnerable period without any problems. Other children though, during this vulnerable period, may have a minor infection which may be just enough to tip the balance and play a role in the death of the child. So it is a factor that it is hard to put your finger on.

Q. I understand, Doctor.

THE COMMISSIONER: I am sorry, I thought--I am now lost, I know you want to do it quickly. I thought you were ruling out an infection? I thought that was one of the things that you had to do if there was an infection and a likelihood of Sudden Infant Death Syndrome being the cause of death would be reduced.

THE WITNESS: Yes.





F.2

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2 THE COMMISSIONER: So now I discover  
3 in the last question that there probably, there can  
4 be an infection go along with the disease.

5 THE WITNESS: We are talking about I  
6 believe two different things now. Miss Cronk was  
7 talking about the clinical findings of an infection.  
8 In other words, there is a history of an infection  
9 preceding the event of Sudden Infant Death Syndrome.  
10 Whereas from a pathologist's point of view, I am  
11 talking about ruling out infection in terms of my  
12 histological slides which I would look more carefully  
13 at with this history of infection.

14 MS. CRONK: Q. You would want to be  
15 convinced in your own mind, Doctor, that infection  
16 was not the event, or the underlying cause of the  
17 death of the patient?

18 A. That is right.

19 Q. And to put the question perhaps  
20 the other way, if there was evidence in the clinical  
21 history of the child that there had been an upper  
22 respiratory infection in the week prior to the death  
23 of the patient, in your view is that clinical finding  
24 of significance to you in trying to explain how the  
25 child died in relation, bearing in mind your diagnosis?

A. Yes.





F.3

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4

THE COMMISSIONER: Does it influence you to reach the conclusion that the child died of SIDS, that is what you really mean, is it not?

5

6

7

8

THE WITNESS: As I said before, the diagnosis of Sudden Infant Death Syndrome is not based on those pieces of clinical information. They are useful to hypothesize about what is happening, but in terms of the actual diagnosis that would take --

9

MS. CRONK: Q. They are unnecessary?

10

A. ... a secondary role.

11

12

13

14

15

Q. Doctor, one final question perhaps, Mr. Commissioner, before we take a break. Is cyanosis observed during life and contained in the medical record of the child of any relevance to you in attempting to explain how the child died? Observed pallor, cyanosis?

16

17

18

19

A. Well, associated with that you may see pallor or cyanosis, but of course there are many other causes of cyanosis which a clinician would be much better prepared to give you.

20

21

Q. Thank you, Doctor.

MS. CRONK: Mr. Commissioner, perhaps we could take a break at this time?

22

23

THE COMMISSIONER: All right, we will take 20 minutes then.

24

25





F.4

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2 MS. CRONK: Thank you.

3 --- Short recess

(2) 4

---- Upon resuming:

5 THE COMMISSIONER: Yes, Miss Cronk?

6 MS. CRONK: Thank you, sir.

7 Q. Doctor, you told us of the four  
8 pathological findings which you consider important to  
9 arrive at a terminal diagnosis of missed-SIDS. You  
10 have also told us of the importance in your view of  
11 knowing about observed periods of apnea during the  
12 life of the particular patient.

13 May I ask you, Doctor, are all of those,  
14 in combination, required in your view to arrive at  
15 a terminal diagnosis of missed-SIDS?

16 A. No.

17 Q. Are there, amongst those five  
18 featured, the four pathological findings and the  
19 observed periods of apnea during life, of those five  
20 features are there any which in your view are  
21 absolutely required from your perspective as a  
22 pathologist in order to arrive at a terminal diagnosis  
23 of missed-SIDS; if so, what are they, which of the  
24 five?

25 ^A. Well, as I have mentioned before  
there may be no findings on pathology, there just may





F.5

1

2       be sudden death, the diagnosis then would still be  
3       Sudden Infant Death Syndrome.

4           Q.     I am talking now of the terminal  
5       diagnosis of missed-SIDS. May I take it that an  
6       absolute prerequisite for that terminal diagnosis by  
7       a pathologist is there be at least the observed  
8       periods of apnea during life?

9           A.     Yes.

10          Q.     All right. Of the four patho-  
11       logical features that you have described, are any of  
12       those absolute prerequisites, in your view as a  
13       pathologist, for the terminal diagnosis of missed-SIDS?

14          A.     I would like to see one or all  
15       of them present in order to make that diagnosis, yes.

16          Q.     Is one enough, Doctor?

17          A.     With that history of the presence  
18       of - I would put the astrogliosis of the brainstem  
19       as No. 1 if that were present, then I would be  
20       sufficiently convinced. So I would put that as No. 1.

21          Q.     Is it possible for you to rank  
22       the others, or is that totally inappropriate?

23          A.     No, I couldn't rank the others.

24          Q.     If the fibres in the brainstem  
25       were not there, but the other three pathological  
26       findings were, would it be possible for you then to





F. 6

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2 make a terminal diagnosis of missed-SIDS?

3 A. Yes, I think so.

4 Q. I take it then, Doctor, in summary,  
5 that although all four are not required, one or more  
6 must be there?

7 A. Yes.

8 Q. But at a minimum it is a possible  
9 terminal diagnosis if you have the accumulation of  
10 fibres in the brainstem without the other three  
pathological features, it would still be possible?

11 A. Yes.

12 Q. All right.

13 A. With the history.

14 Q. I am assuming that.

15 A. Yes.

16 Q. Now, Doctor --

17 THE COMMISSIONER: The scarring and the  
accumulation of fibres, isn't it important?

18 THE WITNESS: Yes, the scarring.

19 MS. CRONK: Q. The gliosis, the scarring?

20 A. Yes.

21 Q. Thank you, Doctor. Doctor, I  
would ask you to assume for the moment that all four  
22 pathological features are there, and as well a  
history of observed periods of apnea. If all those  
23

24

25





F.7

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2 five features are present in any particular case,  
3 are they consistent in your view with anything other  
4 than missed-SIDS?

5 A. No, they would not be. I have  
6 to add with the proviso that there has been nothing  
7 else that you are concealing from me in terms of the  
8 autopsy. If it was a standard autopsy with only  
9 those findings and that history I can't think of  
anything else other than missed-SIDS.

10 Q. Doctor, it has been suggested in  
11 some of the literature that has been filed by way of  
12 exhibits before the Commissioner, that as part of the  
13 definition of the diagnosis of SIDS or missed-SIDS,  
14 that the pathologist must be in a position to rule  
15 out any other obvious cause of death. Would you  
16 agree with that?

17 A. Yes, within the confines of the  
standard autopsy.

18 Q. What I have in mind, Doctor then,  
19 and perhaps it is obvious, so that it is on the  
record this kind of a situation: at autopsy you  
20 observed the existence of those four pathological  
21 features. You know from the clinical history of the  
22 child that there has been one or more periods of apnea  
23 observed, so all of those conditions are met. You

24

25





F.8

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2 also see evidence of a gunshot wound in the temple  
3 of the child. In that situation I take it would it  
4 be correct clearly that the diagnosis would not be  
5 missed-SIDS because there is overwhelming evidence  
6 to suggest another cause of death?

7

A. Within the confines of a standard  
8 autopsy yes, that would be obvious at gross examination  
9 and Sudden Infant Death Syndrome would not be a  
consideration.

(3) 10 Q. When you are talking about within  
11 the confines of a standard autopsy, Doctor, are you  
12 including in that concept the undertaking of completion  
13 of microscopic examination of the brain, for example?

A. Yes, the standard autopsy was  
14 designed in 1975 by a group of forensic pathologists,  
15 and other pathologists interested in the subject of  
16 Sudden Infant Death Syndrome. They described a  
17 standard autopsy as one that used a protocol and they  
18 were very specific about the protocol. They suggested  
19 that a hospital protocol that the pathologist was  
20 familiar with would be adequate, that was one of the  
21 things they suggested.

22 The other thing they suggested was  
23 that there be at least 14 sections be taken of various  
24 tissues in the body; and they also commented that

25





F. 9

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2 biological studies, that is looking specifically  
3 for a virus and toxicological studies were done,  
4 part of that definition.

5 Q. Do you accept that definition  
6 in your practice as constituting a standard autopsy?

7 A. Yes.

8 Q. When you say they included 14  
9 sections of tissues to be taken of the body, I take  
10 it you mean by that the taking of the samples and the  
examination of those samples microscopically?

11 A. Yes.

12 Q. Thank you. Doctor, in addition  
13 then to the pathological features that you have  
14 described, and the observed periods of apnea for one  
15 or more periods, I take it the age of the patient  
has some obvious relevance?

16 A. Yes.

17 Q. Can you help me, Doctor, what in  
18 your view is the general age range of risk for  
19 missed-SIDS candidates?

20 A. It would be anywhere from one  
week to eight or nine months of age.

21 Q. I take it then, Doctor, that in  
22 your view, based on your experience, miss-SIDS can  
23 be the terminal diagnosis for neonates if the

24

25





F.10

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2 requisite conditions are present?

3

A. Yes.

4

Q. And is there a period in any  
time during the period of one week to eight or nine  
months when the risk of missed-SIDS peaks?

5

A. Yes. The peak incidence is  
during the winter months, that is October, November,  
December, January.

6

Q. One never knows, I think I can  
accept that. What I had in mind was the age of the  
child, Doctor, and fairly I accept your answer and  
the relevance of it. During the age range that you  
have outlined, from one week to eight or nine months,  
is there a particular time during that age frame  
when the risk of SIDS, death attributable to Sudden  
Infant Death Syndrome is at the highest?

16

A. Yes, two to three months of age.

17

Q. Thank you, Doctor. You have  
told us about the definition that was postulated and  
which you adopted as to what constitutes a standard  
autopsy. There is a suggestion in the literature  
and certain of the articles that have been referred  
to and marked as exhibits before the Commissioner. I  
am referring now, sir, to Exhibits 163 and 161, which  
are articles that were introduced, Doctor, by

24

25





F.11

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2 Mr. Scott during the cross-examination of Dr. Rowe.  
3 I am not sure you have to specifically refer to them,  
4 Doctor. I simply intend to quote from the definition  
5 of Sudden Infant Death Syndrome which appears in  
6 those articles. The definition is described as:

7

8 "The sudden unexpected death of an  
9 apparently healthy infant for whom a  
routine autopsy fails to identify the  
cause of death."

10

Is that an accurate definition in your view, Doctor?

11

A. Well, there are two other aspects  
12 that have not been mentioned in those articles using  
the definition that was established in 1969 at a  
13 conference on Sudden Infant Death Syndrome. But since  
14 1969 there have been two other observations which  
15 are not usually incorporated into the definition.  
16 One of those observations is the phenomena of missed-  
17 Sudden Infant Death Syndrom, and the other is the  
18 presence of the pathological features that are found,  
19 particularly the missed-Sudden Infant Death Syndrome.  
20 So those two factors are usually unfortunately  
omitted in considerations of the definition.

21

Q. When you refer to the pathological  
22 features, are you referring to the four principal  
23 ones that you have outlined?

24

25





F.12

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2 A. Yes.

3 Q. Now on the basis of the definition  
4 that I have quoted to you as expanded by those two  
5 factors, I take it then that there are a number of  
6 requirements from a pathologist's point of view that  
7 are appropriate in the definition of Sudden Infant  
Death Syndrome?

8 A. Yes.

9 Q. And the first is, the death of the  
10 infant must be sudden and unexpected?

11 A. No, that is not correct, because  
12 I have already qualified that; in the sense that in  
13 the classic Sudden Infant Death Syndrome that is true,  
14 death is sudden and unexpected. However, in the  
15 child that has had episodes of apnea, and therefore  
16 is in the missed-Sudden Infant Death Syndrome category,  
death is sudden but not unexpected.

17 Q. I see, I understand, Doctor.

18 Secondly, I take it on the basis of the  
19 definition that has been put forward that a routine  
20 autopsy is mandatory?

21 A. Yes.

22 Q. And by routine, might we in light  
23 of your other evidence add to that a standard  
24 autopsy as you have defined it?

25





F.13

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2 A. Yes.

3

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Q. And then finally, would you accept  
that part of the definition that suggests that the  
routine of standard autopsy must fail to establish  
a cause of death?

7

THE COMMISSIONER: I would think another  
cause of death.

8

MS. CRONK: Q. Another cause of death.  
Fairly, I took that to mean that is what the  
definition meant.

9

10

11

12

A. I would agree with another cause  
of death, yes.

13

14

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Q. The suggestion being I think,  
Doctor, that to arrive at a diagnosis of missed-SIDS,  
or indeed SIDS, it is essentially a terminal diagnosis  
by exclusion, the pathologist must be in a position  
to rule out what might otherwise be a cause of death  
in the patient?

A. When you say exclusion though, you  
have to use the word exclusion in the sense of the  
standard autopsy.

Q. Yes, all right.

A. To use in the definition of  
Sudden Infant Death Syndrome.

Q. Do I take it then, Doctor, that





F.14

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2 on the basis of the information and the findings  
3 that are available to you at the completion of the  
4 standard autopsy, then you must be able to exclude,

5 on the basis of that information any other cause  
6 of death for the patient involved?

A. Yes.

7

Q. Thank you. There are I would -  
8 Doctor, can we turn now to the case of Jordan Hines.

9 Mr. Registrar, if you could provide  
10 Dr. Becker, if you would, with Exhibit 103, which is  
11 the medical record, and Exhibit 103A, which is a  
12 copy of the final autopsy report.

13 While the Registrar is getting those  
14 exhibits for you, Doctor; as I understand it, you  
15 conducted or supervised the autopsy that was performed  
in respect of Jordan Hines?

16 A. Yes.

17 Q. And in light of the general  
18 practices which you outlined for us earlier, do I take  
19 it that the resident involved was actually the  
pathologist who performed the autopsy itself?

20 A. Yes.

21 Q. And in this case would that have  
22 been Dr. Sugar?

23 A. Yes.

24

25









F.15

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Q. And in respect of this case, if you could turn to page 29 of the Hospital record, Doctor, you will see there a copy of the preliminary autopsy report. The technician is described as D. Perrin, I would take that to be the diener who assisted Dr. Sugar?

3

A. Yes.

4

Q. Prior to conducting the autopsy on Jordan Hines, can you recall and help us today on the basis of your recollection, was the medical record of the child available to Dr. Sugar and yourself?

5

A. I would assume the record was available certainly to Dr. Sugar.

6

Q. Do you have any direct recollection today as to whether or not you personally reviewed the medical record of Jordan Hines before you conducted the autopsy?

7

A. No, I did not.

8

Q. Do you have any personal knowledge as to whether Dr. Sugar did?

9

A. Yes.

10

Q. Did he?

11

A. She did.

12

Q. She did, I am sorry.

13

A. She would have had to in order to

14

15





F.16

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2 give me the synopsis of the case.

3 Q. Do you recall discussing a  
4 synopsis with her before the autopsy was commenced?

5 A. Yes.

6 Q. Do you recall at this time, Doctor,  
7 the features regarding the child's clinical history  
8 and course in the Hospital which she drew to your  
attention?

9 A. Yes.

10 Q. Could you outline to the best of  
11 your recollection what was highlighted by her at that  
12 time?

13 A. She was primarily concerned about  
14 the sepsis in this child. This was the initial  
15 concern and consideration prior to performance of the  
autopsy.

16 Q. To the best of your recollection  
17 did she outline any other features in the clinical  
18 history of the child?

19 A. Well, in terms of the sepsis we  
20 were considering things like a myocarditis. We also  
21 were concerned that maybe myocarditis could have  
22 affected, the same virus that affected the heart could  
23 also have affected the brain, so we were thinking  
24 of encephalitis as a possibility. We were also

25





F.17

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2 thinking of pneumonia. Another possibility we were  
3 thinking of was meningitis. All of these things in  
4 the sepsis category.

5 We also wondered about the possibility  
6 of congenital heart disease. We also wondered about  
7 the diagnosis of Sudden Infant Death Syndrome.

8 Q. And Sudden Infant Death Syndrome  
9 I take it then was a possibility that occurred to you  
before the autopsy was in fact undertaken?

10 A. Yes.

11 Q. Had you, prior to the autopsy  
12 being commenced, Doctor, had you any discussions with  
13 either or both of Dr. Fowler or Dr. Rose with respect  
14 to this child's course in the Hospital?

15 A. No.

16 Q. Had you had any discussions with  
17 any other member of the Cardiology Division concerning  
18 the child's course in the Hospital, or what was  
19 observed to have taken place during its course in  
the Hospital?

20 A. Not to the best of my recollection.

21 Q. Prior to conducting the gross  
22 autopsy, Doctor, you have told us you do not recall  
23 speaking with any of the cardiologists and that you  
24 did not speak to Dr. Fowler or Dr. Rose with respect

25





F.18

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2 to the child. With the exception of Dr. Sugar and  
3 her drawing to your attention the features that you  
4 have described, did anyone suggest to you a possible  
5 cause of death with respect to this child before  
6 the gross autopsy commenced?

7 A. No.

8 Q. Were you present personally at  
9 the time that the gross autopsy was conducted on this  
child, Doctor?

10 A. Yes. My policy is to - I have  
11 to qualify that, because I am not there for the entire  
12 post mortem procedure but I come in towards the end  
13 of the procedure after the dissection is complete and  
14 then the organs are dissected free. I go over those  
15 organs then with the resident so that I am present  
16 at the end of the autopsy when the organs were  
17 available for examination but not present throughout  
the autopsy.

18 Q. Based on the gross autopsy alone,  
19 Doctor, without more, were you in the position to  
20 formulate an opinion, or terminal diagnosis at that  
time as to the cause of death of the child?

21 A. No, we couldn't determine the  
22 precise cause of death, but our main consideration  
23 was a viral myocarditis and certainly one couldn't  
24 make that diagnosis by gross examination of the heart.

25





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G2  
autopsy. Was there anything that presented itself at the time of the gross autopsy which was suggestive or indicative of a cardiac tumour or is that something that you would be able to either confirm or rule out at gross autopsy without dissection?

7 A. Brain tumours are exceedingly  
8 rare and they are usually a fair size. So, they  
9 could be easily ruled out I think by gross examina-  
10 tion, but in a few situations they can be very small  
11 and you would only see them by microscopy, so, I  
12 would say that most heart tumours could be ruled out,  
13 but I can see that the occasional one may not be  
ruled out until you look at the microscopy.

14 Q. Well, in the case of Jordan  
15 Hines, based on the gross autopsy, did you have any  
16 cause to suspect that there might be a cardiac  
tumour?

17 A. No.

18 Q. All right. Based on again  
19 the condition of the body and the heart at gross  
20 autopsy, was there any suggestion at that point of  
21 pneumonia?

22 A. Grossly we - that is examination  
23 of the lungs didn't show any definite pneumonia but  
24 still we need a microscopy to confirm that.

25





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Q. So, you couldn't rule it out  
at that stage?

4

A. No, we couldn't rule it out.

5

Q. All right, thank you, Doctor.

6

THE COMMISSIONER: Before we leave  
these pin-sized hemorrhages, did you say in the  
thumbs and over the heart?

7

THE WITNESS: I'm sorry, in the  
thymus which is a gland that sits in here.

8

THE COMMISSIONER: The thymus. Is  
that a finding associated with SIDS?

9

THE WITNESS: Yes. When I was talking  
about the findings before I was talking about the  
chronic findings. There are acute changes in Sudden  
Infant Death Syndrome but they're associated with  
the final terminal event.

10

THE COMMISSIONER: Yes, but is that ---

11

THE WITNESS: And that is found.

12

THE COMMISSIONER: But is that  
peculiar to SIDS?

13

THE WITNESS: No, it can be found in  
any death, any death associated with a terminal  
asphyxic event.

14

THE COMMISSIONER: But it is consistent  
with SIDS?

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THE WITNESS: Yes.

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THE COMMISSIONER: But it is hardly  
indicative of it.

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THE WITNESS: No, that's correct.

6

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THE COMMISSIONER: We have heard that  
distinction several times.

8

THE WITNESS: That's correct.

9

10

11

12

MS. CRONK: Q. Doctor, can you help  
me with respect to the actual autopsy that was  
performed on Jordan Hines? I take it various  
tissue samples were taken for later microscopic  
examination?

13

A. Yes.

14

Q. All right. And did they  
include tissue samples from both the brain and the  
lungs?

15

A. Yes.

16

Q. All right. How long did the  
autopsy take, Doctor, including the taking of the  
samples for the microscopic examination?

20

A. You mean the completed autopsy?

21

Q. That's right. Leaving aside  
the study of the microscopic slides but the conduct  
of the autopsy itself including the taking of the  
samples, how long did that take in the case of

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Jordan Hines?

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A. Well, I know that the brain tissue had been examined on the 17th of March and it could not have, I would not have had dissections from the brain tissue back until the 23rd of March.

7

8

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10

THE COMMISSIONER: Well, that's not the question. The question was really how many hours did it take to do the autopsy and to remove the tissues, not including the time it took you to examine the tissues?

11

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MS. CRONK: Q. Fairly, Doctor, it is quite possible I put the question in a confusing fashion. May we take it in two stages. Once the body was opened you examined it grossly for what was observable at that stage, I take it the autopsy was undertaken and as part of the procedures that were done, various tissue samples were taken, you have told us both from the brain and the lungs, how long did that process take to perform the autopsy and take the samples. I'm not talking about later inspection of the brain tissues or later inspection of the lung samples.

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A. On the day of the autopsy the large samples of tissue were taken, they are fixed overnight and the following day those sections





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Jordan Hines?

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A. Well, I know that the brain tissue had been examined on the 17th of March and it could not have, I would not have had dissections from the brain tissue back until the 23rd of March.

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A. On the day of the autopsy the large samples of tissue were taken, they are fixed overnight and the following day those sections





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would have been trimmed.

3

4

Q. All right. On the day of  
the autopsy, Doctor, how long were you working with  
the body?

6

7

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11

12

THE COMMISSIONER: I don't think  
you're going to get an answer and I don't know how  
important it is. Let's take a guess, what about two  
hours, would that be a good guess? I want to bring  
you right back to the day that you did all this  
examination, dissecting, long before you examined  
any slides or brought your microscope out of anything  
else, how long did that take?

13

14

THE WITNESS: I don't recall how  
long the autopsy took.

15

THE COMMISSIONER: All right.

16

MS. CRONK: Q. Thank you, Doctor,  
that's what I thought the answer was going to be  
a few minutes ago, but thank you for it now.

18

19

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You have told us, Doctor, in the course  
of that answer that the brain tissue samples were  
taken, that they were sent for processing, and you  
described to us earlier what that means, and I think  
you said that they were not back for examination until  
March the 23rd.

A. Yes.





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Q. All right. Can you help me,  
Doctor, as to how you know now that that's the day  
upon which the samples came back or available for  
further study?

A. Well, I suppose that date from  
the date I do know, I usually examine brain tissue  
on Tuesday and it fixes for 10 days. So that I know  
I must have examined the tissue on the 17th and I  
know from our technologist that we cannot get the  
tissue prior to that many days.

So, the first time I could have  
received the sections would have been on the 23rd  
of March.

Q. All right, Doctor, thank you.

Doctor, with respect to the preliminary  
autopsy report at page 29 of the record, can you  
tell me, Doctor, was the normal practice following  
in this case that you have described to us earlier  
and, that is, did Dr. Sugar prepare first notes  
for or synopsis for a discussion with you, a first  
draft of the report?

A. I presume so, I don't remember  
whether she did or not, but I would suspect she did.

Q. All right. I take it if we  
turn to page 2 we see your signature, Doctor. I

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assume on the original copy of the autopsy report  
at some time Dr. Sugar did sign the preliminary  
autopsy report?

5

6

A. She may not have been around  
at that time and not signed the report but she  
contributed to the construction of the report.

7

8

9

10

11

Q. All right. In this case,  
Doctor, the final autopsy report, which is Exhibit  
103A, that's not in the medical record itself, I  
think the registrar has provided it separately to  
you, do you have it there?

12

13

THE COMMISSIONER: It is right in  
the record with me and I think it is there as well.

14

THE WITNESS: Yes, I do.

15

THE COMMISSIONER: It is loose there  
as well.

16

17

MS. CRONK: Do you have that, Doctor?

THE WITNESS: Yes.

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MS. CRONK: Q. All right. In this  
case, Doctor, with the exception of the title of  
the document, final autopsy report and with the  
exception of a date which is written in by hand on  
the second page of the final autopsy report, and I  
will return to that in a moment, the contents of the  
final autopsy report and the preliminary autopsy





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report and the first two pages, leaving aside the detailed provisions which follow appear to be identical. Can you help me, Doctor, do you have any recollection or knowledge today as to the date upon which the preliminary autopsy report for Jordan Hines was completed and signed out by Dr. Sugar and yourself?

A. I can't be sure of the date but I would presume that it would have to be the 23rd or 24th. I presume it would have been done on the 23rd but I can't be certain.

Q. And that presumption is based on your extrapolating the time period within which it would take for you to receive back the brain tissue samples for examination and the earliest date you said you could have received those for study was March 23rd?

A. Yes.

Q. All right. So, that is the earliest date upon which the preliminary autopsy report could have been dated?

A. Yes, that is my understanding.

Q. All right. And if we turn to page 2 of the final autopsy report, Doctor, you will see the date to which I referred a few moments





1 ago, which is the date of the 21st of March, 1981.

2 It may not be possible for you to do so on the basis  
3 of that scanty information, but is that your hand-  
4 writing?

5 A. No.

6 Q. All right.

7 THE COMMISSIONER: Didn't you say  
8 you asked your secretary to put the date in?

9 THE WITNESS: Yes, it is her writing.

10 MS. CRONK: Q. Doctor, to the best  
11 of your knowledge, is that the date that the final  
12 autopsy report was prepared and signed?

13 A. Yes.

14 Q. Right. So, I take it then  
15 that within a maximum of a two-day period both the  
16 preliminary and the final autopsy reports on Jordan  
17 Hines were prepared and signed out by Dr. Sugar  
18 and yourself?

19 A. Yes.

20 Q. Some time between the 23rd and  
21 the 25th for the preliminary?

22 A. Yes.

23 Q. And we know the final was on  
24 the 25th?

25 A. Yes.





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G11 Q. All right. Doctor, you have

described the normal practices which applied to the Pathology Department to determine who the recipients of the autopsy reports were to be. Can you help us as to who received a copy of the preliminary autopsy report in this case?

A. I have the doctors that the report was sent to but I'm not sure whether it was the preliminary report or the final report.

Q. All right. Can you help us as to who the doctors were?

A. The three doctors that I have written down are Fowler, Izukawa and Dworak.

Q. Was Dr. Dworak the referring outside physician for Jordan Hines?

A. I assume so.

Q. Right.

THE COMMISSIONER: Surely also Dr. Freedom? I thought all of them went to Dr. Freedom?

THE WITNESS: Now, I don't know if he would have received a report that wasn't a congenital heart, I don't know about that. His name isn't on the list.

MS. CRONK: Q. Was there a list





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kept in this particular case, Doctor, of who received  
copies of the report?

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A. Yes.

5

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Q. Is that the list that you're  
referring to?

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A. Yes.

8

Q. May I see it?

9

A. Yes.

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Q. Doctor, this appears to be  
an envelope and on the outside cover appears, you  
have indicated the names of Drs. Fowler, Izukawa and  
Dworak. Can you tell me, Doctor, the fact that --  
there is a small note inside the envelope with the  
autopsy number for Jordan Hines being A-6881 and it  
says:

"Send copy of report to Dr. Fowler,  
Dr. Izukawa and Dr. Dworak."

Can you help me, Doctor, would this be  
the envelope in which the copies of the autopsy  
reports would have been placed once prepared?

A. Yes.

Q. And is this envelope the  
kind of recording mechanism that is used in the  
Pathology Department to record who would get a copy  
of the reports?





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3 A. I think it is the procedure  
4 that's used probably by my secretary. I don't know  
5 if all of the others are using the same procedure.

6

7 Q. Thank you, Doctor. Doctor,  
8 do you have any recollection of Dr. Rose being provided  
9 with a copy of either the preliminary or final  
10 autopsy reports or both on Jordan Hines?

11

12 A. No. My assumption though  
13 during that period of time was that probably none  
14 of those doctors received the report.

15

16 Q. On what did you base that  
17 assumption?

18

19 A. Because during that time the  
20 police had entered into their investigation at the  
Hospital and I had understood that the reports were  
all going to the police and that they were then  
going to determine the distribution of the reports.

21

22 So that I certainly at that point wasn't  
23 convinced that they were necessarily going to those  
24 physicians, so, the secretary was operating under  
25 that assumption.

26

27 Q. Do you know, did your secretary  
28 on the day that the reports were completed send, as  
29 you have described, in accordance with the usual  
30 practice, send the autopsy reports together with

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the list of those three doctors back to the Medical Records Department?

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A. I would certainly not think normal procedure was followed during that week. I couldn't say what happened.

7

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10

Q. Do you have any recollection, Doctor, of having personally been requested by the officers from the Metropolitan Toronto Police Force to deliver the preliminary and final autopsy reports to them?

11

12

A. No, I was not contacted directly by the police.

13

14

15

Q. All right. To your knowledge, do you have any knowledge about whether or not those reports were picked up in the Pathology Department by the police officers?

16

17

18

19

A. I don't have any personal knowledge. Somebody else was handling the communication with the police in order to assist their investigation.

20

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Q. All right.

A. But I was not that person involved.

Q. So, I take it at that stage, Doctor, your last involvement with those reports





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would have been on the day that you signed the  
final autopsy reports, the 25th of March?

3

A. Yes.

4

MS. CRONK: Mr. Commissioner, I'm  
not sure if anything turns on it, but might the  
envelope with the names of those individuals be  
marked as the next exhibit, please.

5

6

THE COMMISSIONER: Yes, all right,

7

Exhibit 196.

8

9

---EXHIBIT NO. 196: Envelope indicating the names  
of Dr. Fowler, Dr. Izukawa and  
Dr. Dworak.

10

11

MS. CRONK: Q. Dr. Becker, do you  
recall Dr. Rose being present for part or all of  
the gross autopsy on Jordan Hines?

12

13

A. No, I don't recall seeing  
Dr. Rose.

14

15

Q. All right. Do you recall  
Dr. Freedom being present?

16

17

A. No, I don't.

18

19

Q. At least not during the time  
when you were there?

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A. No.

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Q. Thank you. Doctor, can you  
help me. I appreciate that you have told us that

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2 by the 25th of March, which is the date when you  
3 know that the final autopsy report was prepared and  
4 signed out that by that time the Metropolitan Toronto  
5 Police Force had commenced their investigation at  
6 the Hospital and were involved at that stage. Do you  
7 know, Doctor, whether a copy of the preliminary and  
8 final autopsy reports on Jordan Hines were kept in  
the Pathology Department?

9  
10 A. No, I wasn't involved in the  
control of the charts. I don't know what the sequence  
11 was at that time.

12 Q. All right. So, you do not  
know then I take it one way or the other whether,  
13 in accordance with the normal practice a copy of  
the preliminary and final autopsy reports would have  
14 been kept internal to the Pathology Department,  
whatever might have happened to the other copies?

15 A. That's right. During that  
time I recollect that they were unavailable, that  
16 we weren't able to look at them. So, I assumed that  
they weren't in the department but I don't know for  
17 sure where they were. They were certainly not in  
the usual places.

18 Q. Doctor, do you recall, and  
dealing first with the preliminary autopsy report,

25





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3 discussing specifically with Dr. Sugar the final  
4 diagnosis which was to be made in this case and the  
5 pathological findings which were to be described in  
6 the preliminary autopsy report in support of that  
terminal diagnosis?

7

8 A. I don't recall any specific  
discussion with her but I'm sure it went on.

9

10 Q. All right. Doctor, we see  
11 on the preliminary autopsy report at the top of the  
12 page under the informational section as to date and  
13 time of death the words "Query Sudden Infant Death  
14 Syndrome". Can you help me, Doctor, what you meant  
at that stage by inserting those words at the top of  
the preliminary autopsy report?

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A. The query did not refer to the  
diagnosis of Sudden Infant Death Syndrome but was  
referring to the mode of death, the mechanism of  
death.

Q. All right. Can you help me

as to what you mean by the mechanism of death in that  
context?

A. Well, the last four lines of  
the autopsy report are referring to an explanation  
for the way that the hypoxia, chronic hypoxia may  
have interfered with respiratory function and





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produced death. This was the query aspect; in other  
words, this was the hypothesis that we were suggesting.

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THE COMMISSIONER: I thought we  
heard earlier the heading of this had nothing to do  
with the final determination, it was sort of a  
diagnosis of the disease that the child was suffering  
from.

5

6

THE WITNESS: Yes.

7

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THE COMMISSIONER: And then quite  
often it would refer to some injury to the heart or  
something like that.

9

10

THE WITNESS: Yes.

11

12

THE COMMISSIONER: But is this  
something that you put in after you had reached your  
conclusions. Is this a summary of what you thought  
about this query of Sudden Infant Death Syndrome  
or is that a starting point?

13

14

THE WITNESS: No, that was done at  
the end of the report.

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THE COMMISSIONER: It's not usually  
done at the end of the report, am I right, it is  
usually done, most of these -- the heading, do we  
have another one? Anyway, what was the page? Yes,  
page 12 of Taylor, Exhibit 12, aortic stenosis.  
That's the sort of disease from which the child was





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suffering?

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THE WITNESS: Yes.

4

THE COMMISSIONER: In this case you  
couldn't put anything because there was no particular  
disease I guess from which Baby Hines was suffering.

5

THE WITNESS: Well, the child has  
Sudden Infant Death Syndrome.

6

THE COMMISSIONER: Tell me, when you  
are preparing this, who puts this in? Is this after  
consultation with the resident that you put this in  
at the end?

7

THE WITNESS: Yes.

8

THE COMMISSIONER: Is it supposed to  
be a short form of what your diagnosis is, or at  
least what your findings are?

9

THE WITNESS: Yes.

10

THE COMMISSIONER: I see, all right.

11

MS. CRONK: Q. And your evidence is,  
Doctor, that the word query in that context relates  
to the mechanical method of death and not to the  
diagnosis?

12

A. Yes.

13

Q. All right. I take it then,  
Doctor, from your exchange with the Commissioner,  
that in your view Sudden Infant Death Syndrome is

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a disease?

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A. No, it is a matter of semantics I think. I don't really look upon Sudden Infant Death Syndrome as a particular disease but one component of that syndrome may very well be a disease but they don't at this moment know whether it is a disease or not. But it is really much a matter of semantics.

Q. Doctor, if we look to the

last paragraph of the preliminary autopsy report we see set out there your findings as a result of the autopsy. I take it at that point they are the results of the standard complete autopsy that was performed on Jordan Hines?

A. Yes.

Q. All right. Had you at the time of the preparation of this report completed all the microscopic studies with respect to the brain tissues and the lung tissues that you had intended to do?

A. Yes.

Q. All right.

A. This is the final ---

Q. I am looking at the preliminary autopsy report but the contents of that paragraph are identical in both.





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A. Yes. The only thing that was done between the preliminary and the final was a special stain, fibron stain done on the lung or the thrombus that was found in it and that took probably a day or so and it didn't add anything to the diagnosis, so, nothing was changed from the preliminary to the final. So, that would have been the only thing not done in terms of the preliminary report.

Q. All right. Everything else had been completed in respect of the microscopic studies on the brain and the lungs that you had intended to do?

A. Yes.

Q. All right. Doctor, the first sentence indicates that at autopsy the heart appeared, both from a gross perspective and later under microscopic examination to be normal?

A. Yes.

Q. All right. So, I take it at that point it was possible to rule out congenital heart disease or any heart defect which might have caused the death of this child?

A. Yes.

Q. All right. Did that include





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as well, Doctor, the possibility of a cardiac tumour,  
could you rule that out, was this ruled out at the  
time the autopsy was completed?

5 A. Yes.

6 Q. All right. The next finding  
7 indicated was extramedullary hematopoiesis was seen  
8 in the liver, spleen and thymus, and that you have  
9 described to us as being the growth of blood cells in  
10 sites in the body that you wouldn't normally  
11 anticipate, and I take it that you found them in the  
liver, the spleen and the thymus in this case?

12 A. Yes.

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/EMT/ko 2 Q. And that you have also told us  
3 is one of the pathological findings in your view of  
4 a missed-SIDS terminal diagnosis?

5

A. Yes.

6

Q. You then indicate that the lungs  
showed congestion and edema?

7

A. Yes.

8

Q. Stopping there for a moment,  
9 Doctor, was there in your opinion, having completed  
10 the autopsy, any suggestion that pneumonia, given  
11 those findings in respect of the lung, had contributed  
12 or caused this child's death?

13

A. No. There was no evidence of  
infection in the lungs. The presence of a little bit  
of congestion and edema can also be found in Sudden  
Infant Death Syndrome.

16

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Q. What significance if any then  
did you attach to the fact that in terms of reaching  
your terminal diagnosis that the lungs were congested  
and edemic?

20

A. It played no particular role.

21

Q. All right.

22

Next, Doctor, you indicate of interest  
that fibrous thickening of the pulmonary arterials  
suggesting chronic hypoxia was found.

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2 If I recall the pathological features,  
3 the four principal ones, you outlined that too in  
4 your view is a feature suggestive or indicative of  
missed-SIDS?

5

A. Yes.

6

7 Q. You then continue and indicate  
the persistence of brown fat was also seen in the  
8 autopsy.

9

10 That is the third pathological feature  
that you have indicated in your view is indicative of  
missed-SIDS?

11

A. Yes.

12

13 Q. All right. You then go on to  
indicate the gliosis in the brain stem was found?

14

A. Yes.

15

16 Q. And this is the fourth feature  
which you have indicated is in your view indicative  
of missed-SIDS?

17

A. Yes.

18

19 Q. So I take it in this case,  
starting at that point, that all four principal  
20 findings which you have told us you feel to be  
21 indicative of missed-SIDS were found and existed  
22 at the completion of autopsy in the case of Jordan  
Hines?

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A. Yes.

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You then continue, Doctor, to indicate the other findings which in your view you indicate expressly in the report support a diagnosis of a missed-SIDS, and you repeat the persistent extra-medullary hematopoiesis, the persistence of brown fat, and the thickening of the pulmonary arterials.

9

Then continue in the next sentence:

10

"This pathological evidence ..."

11

12

13

If I may stop there, are you referring in those three words to the features that you have just previously outlined that I have just read?

14

A. Yes, I am referring --

15

16

Q. The growth of the blood cells, the persistence of brown fat and the thickening of the arterials?

17

18

19

A. I am referring to this pathological evidence referring to chronic hypoxia. Those changes which you described, yes.

20

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Q. And when you refer in the sentence in which you describe those features to those findings supporting a diagnosis of a missed-SIDS, are you referring there to a terminal diagnosis?

A. No, these last four sentences,





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(Cronk)

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2 you are right, terminal diagnosis.

3 THE COMMISSIONER: I think the answer  
4 to that is yes.

5 THE WITNESS: Yes.

6 THE COMMISSIONER: He is referring to  
7 that because that is what he said, that is what it  
means to him, missed-SIDS in the pathological sense.

8 MS. CRONK: Q. You are not referring  
9 in that context to anything that may or may not have  
10 happened during the child's life?

11 A. Well, the diagnosis of missed-  
12 SIDS, though, implies that there has been an apneic  
13 episode prior to death.

14 Q. Fair enough.

15 A. So there has to be some  
connection.

16 Q. And then you continue in the  
17 sentence that I began to read:

18 "This pathological evidence, in  
19 conjunction with the chemical history,  
20 makes the diagnosis of a missed-SIDS  
21 a possibility."

22 Doctor, you have told us what the  
23 pathological features were: indeed you have set them  
24 out expressly in the report that you were referring to.

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5           2 What elements of the clinical history in the case of  
3           3 Jordan Hines were you referring to in that sentence?

4           4 A.       May I go over that sentence?

5           5 Q.       Yes.

6           6 A.       This is the way I would put it  
7           7 together.

8           8         This pathologic evidence, referring to  
9           9 the chronic hypoxia, in conjunction with the clinical  
10          10 history, referring to the recurrent apnea, makes the  
11          11 diagnosis of missed-Sudden Infant Death Syndrome,  
12          12 implying the missed-Sudden Infant Death Syndrome to  
13          13 mean in support of the apnea hypothesis as a  
14          14 possibility or hypothesis for the mechanism of death.

15          15         THE COMMISSIONER: Clinical history  
16          16 is the apnea?

17          17         THE WITNESS: Yes.

18          18         MS. CRONK: Q. You weren't  
19          19 thinking about anything else that occurred during  
20          20 the child's life other than the apnea in that context?

21          21         A.       No.

22          22         Q.       And when you refer, Doctor,  
23          23 to a diagnosis of missed-SIDS as a possibility did  
24          24 you then have doubt in your own mind as to whether  
25          25 or not the terminal diagnosis for this child should  
              be missed-SIDS?





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A. No. The diagnosis was clearly missed-SIDS, but I am talking here about the mechanism of death. How did the apnea actually produce it and how does the apnea or can the apnea explain the other two things that have been mentioned in the history, the bradycardia and the tachycardia, so I am trying to put this together into some anatomical or pathological basis.

Q. What possibility, Doctor, were you referring to when you made use of the word "possibility" in that sentence?

A. Using that as a hypothesis that the apnea was a possibility, and what I meant was that my hypothesis in the situation was that the neural control in the brain was abnormal and this abnormal neural control of respiration could account for the apnea.

On the other hand the apnea alone or per se probably could not easily account for the bradycardia and the tachycardia. I knew that the bradycardia is closely associated with the apnea, but less often so with the tachycardia.

Therefore I was very interested in this case because it suggested to me that the neural control of cardiovascular and respiratory function





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2 was abnormal, and therefore accounted for the apnea,  
3 the bradycardia and the tachycardia, and under  
4 microscopic sections I had evidence that there was  
5 scarring in the very region of the brain that was  
6 associated with this neural and cardiovascular control.

7 Now in order to confirm this hypothesis  
8 I wanted to show that the conduction system of the  
heart was normal.

9 Q. Well, Doctor, that is a very long  
10 answer and I am not sure that I have at all understood  
11 it fully.

12 THE COMMISSIONER: It is a medical  
13 answer to what was essentially a question in English.

14 The question was what did you mean by  
15 a possibility? Does that conceivably mean that there  
16 is some other possible explanation? I would think  
17 that is what it meant but I may be wrong.

18 THE WITNESS: Sure. The other  
19 possibility would be that there could be something  
20 wrong with the conduction system.

21 THE COMMISSIONER: Yes?

22 MS. CRONK: Q. I take it, Doctor,  
23 that when you made that reference in the preliminary  
24 autopsy report you were of the view that at least one  
25 of the possible explanations was a problem in the





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2 conduction system of the child?

3 A. Very unlikely possibility, but  
4 in order to prove any other - in order to prove the  
5 neural hypothesis I wanted on an academic basis to  
6 rule out the conduction defect of the heart.

7 Q. And there was then in your view  
8 I take it some slight doubt that the terminal diagnosis  
9 at that stage should be described as missed-SIDS?

10 A. No, there wasn't any doubt in my  
11 mind about the diagnosis.

12 Q. Right. You continue in the next  
13 sentence, and I will return to that in a moment,  
14 Doctor, to indicate:

15 "However, this does not explain the  
16 arrhythmias and further conclusions  
17 will have to await examination of the  
18 conducting system."

19 Doctor, there has been suggested in  
20 evidence - well, perhaps I should ask you first: what  
21 arrhythmias were you directing your mind to, Doctor?

22 A. I was using arrhythmia in the  
23 broader sense to include rate. I was referring to  
24 slow rate, bradycardia, or fast rate, tachycardia.

25 Q. Were you aware, Doctor, of the  
nature of the terminal events sustained by this child?





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2 A. Approximately but not in detail.

3 Q. Were you aware that ventricular  
4 fibrillation had been recorded in the medical record  
5 as having been experienced at the time of death?

6 A. Yes. I assumed that was a  
7 terminal event.

8 Q. Did you have that in mind when  
9 you referred to arrhythmias?

10 A. No.

11 Q. You were referring solely to the  
12 episodes of bradycardia --

13 A. Yes.

14 Q. -- and tachycardia in the child?

15 A. Yes.

16 Q. Were you at that stage, Doctor,  
17 having regard to the language which is in your report,  
18 uncomfortable about the finding there had been  
19 arrhythmias in the situation which you felt to be  
20 attributable to death by missed-SIDS?

21 A. No, I was quite happy with the  
22 bradycardia being present in relation to the apnea,  
23 but as I mentioned, the tachycardia I think is less  
24 common, and I was interested in trying to find an  
25 explanation for why the apnea, bradycardia and  
tachycardia all occurred together.





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2 Q. I take it, Doctor, from the  
3 balance of your sentence that you felt that that  
4 puzzle to you might be explained by the conduct of  
5 an examination of the conducting system?

6 A. It may have helped to explain  
7 it, but it wouldn't have explained everything. But if  
8 I could have proved that it was entirely normal then  
it would have --

9 THE COMMISSIONER: Doctor, if you  
10 could have proved that it wasn't?

11 THE WITNESS: If I could have proved  
12 that the conduction system of the heart was normal  
13 then that would have meant that my hypothesis for the  
14 neural control of respiration being abnormal would  
15 have been more viable. But this was certainly in an  
academic sense.

16 MS. CRONK: Q. Then I take it,  
17 Doctor, that had you proceeded to conduct a study of  
18 the conduction system of the child and had no  
19 irregularity in the conduction system presented itself  
20 as a result of that study, you would then have not had  
21 any concerns about a problem in the conduction system  
22 having contributed to this child's death? That was  
something you could rule out at that stage?

23 A. If the conduction system had been  
24  
25





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11           2 examined you mean completely?

3                 Q.     All right.

4                 A.     Yes.

5                 Q.     And the final sentence of the  
paragraph, Doctor, indicates:

6                 "There was no evidence of infection  
7                      in the autopsy."

8                 I take it that all possibilities of  
9                      infection were in your view ruled out as a result of  
10                  the autopsy?

11                 A.     Yes.

12                 Q.     And that would include any  
13                      possibility of myocarditis or viral inflammation of  
14                      the heart muscle or a viral infection of the brain?

15                 A.     Yes.

16                 Q.     Doctor, as you will well  
17                      appreciate we have had some considerable evidence with  
18                      respect to what you felt your terminal diagnosis to  
19                      be having regard to the language of the final para-  
20                      graph of the preliminary autopsy report, and if I have  
21                      understood your evidence correctly, and please tell me  
22                      if I have it incorrectly, in your mind at the time you  
23                      prepared and signed the preliminary and then the final  
24                      autopsy report you were of the view that the  
25                      appropriate terminal diagnosis for this child was





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2 missed-SIDS?

3 A. That is correct.

4 Q. All right. May I ask you,

5 Doctor, at that time other than the problem of, the  
6 possible problems with the conduction system, which  
7 you have outlined, was there any question in your own  
8 mind that any other cause might have contributed to  
the death of this child other than missed-SIDS?

9 A. No.

10 Q. We know, Doctor --

11 THE COMMISSIONER: Well, wait a minute,  
12 before you say that so blithely, what would have  
13 happened if there had been something wrong with the  
conduction system?

14 THE WITNESS: If there had been some-  
15 thing wrong with the conduction system the diagnosis  
16 of Sudden Infant Death Syndrome would still apply but  
17 we would have another mechanism for death. In other  
18 words it would not have been my hypothesis that there  
19 was something wrong with the neural control of  
respiration or the two factors may have worked  
20 together.

21 THE COMMISSIONER: Well then I go back,  
22 but I am not going to take very long with it. Why then  
23 the word "possibility", because if you were certain

24

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2 regardless of the finding of the conducting system  
3 that the diagnosis would be missed-SIDS, why use the  
4 word "possibility"?

5 THE WITNESS: I am talking about the  
6 possibility of the mechanism of death; not a  
7 possibility of diagnoses.

8 THE COMMISSIONER: I see.

9 MS. CRONK: Q. Is missed-SIDS a  
10 possibility for mechanism of death, Doctor?

11 A. With the apnea hypothesis  
implied it is.

12 Q. All right. That is one  
13 possibility of the mechanism of death, and I take it  
the other is a disorder in the conduction system?

14 A. Yes.

15 Q. Right. So what you were  
16 addressing your mind to, if I understand your evidence,  
17 were those two, and I take it mutually exclusive  
18 explanations --

19 A. No.

20 Q. -- as to the method of death?

21 A. They may occur together but I  
mean it has never been reported. We are talking about  
22 a very hypothetical situation in terms of possibility  
23 of there being an abnormality in the brain and in the  
24

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2 conducting system of the heart, but it is possible.

3 Q. Doctor, we know that at the  
4 beginning of the preliminary autopsy report and in the  
5 final autopsy report the phrase "query Sudden Infant  
6 Death Syndrome" appears and you have explained to us  
7 what you meant by that, and we know that the word  
8 "possibility" occurs in the final penultimate para-  
9 graph of both reports, and you have explained to the  
Commissioner what you meant by that.

10 Can you turn to the second page of the  
11 preliminary autopsy report if you would, Doctor, and  
see under the section "Pathological Diagnosis" --

12 A. Yes.

13 Q. -- the first entry under Item 1  
14 is question mark Sudden Infant Death Syndrome with,  
15 and then you proceed to list the pathological findings.

16 Can you help me, Doctor, if you were  
17 convinced in your own mind at the time of signing the  
18 preliminary autopsy report that missed-SIDS was the  
19 appropriate and only terminal diagnosis for this child,  
20 why a question marks appears before the words Sudden  
Infant Death Syndrome and why missed-SIDS is not  
21 referred to?

22 A. Well, the question mark again  
23 refers to the same query that was on the leading

24

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2 diagnosis at the top of the page and refers to the same  
3 thing. I am talking about the mechanism of death  
4 essentially which is the query.

5 Q. There was no question in your  
6 mind, Doctor, however, with respect to the diagnosis  
7 that SIDS was not an appropriate one based on how you  
8 understand that term, but rather that it was missed-  
SIDS? Am I correct in that?

9 A. Yes.

10 Q. All right.

11 A. But in terms of a diagnosis like  
12 this, I think that Sudden Infant Death Syndrome as the  
13 main diagnosis is reasonably appropriate and missed-  
14 SIDS being a sub-category of that is important from my  
15 point of view but for somebody reading the chart they  
16 would be - or for categorizing the disease they probably  
17 would be categorized under Sudden Infant Death  
18 Syndrome. We have no specific category for missed-  
SIDS other than my own personal category.

19 Q. Doctor, am I correct that that  
20 section of the preliminary autopsy report under  
21 "Pathological Diagnoses" is intended to set out what  
22 the view of the pathologist was as to the primary cause  
of death?

23 A. Yes.

24

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2 Q. All right. And we see that --

3 A. As a diagnosis, yes.

4 Q. As a diagnosis?

5 A. Yes.

6 Q. In the same language as we  
7 find in the preliminary autopsy report we find in the  
final autopsy report in that section?

8 A. Yes.

9 Q. Doctor, forgive me, I must  
10 suggest to you having regard to the language of the  
11 final paragraph of the preliminary autopsy report and  
12 the language that appears on the second page of it  
13 that perhaps to a person not knowing what was in your  
14 mind picking up that report that on the basis that the  
15 language used in the report your confidence in the  
16 appropriateness of the final diagnosis of missed-SIDS  
is not readily apparent.

17 A. Yes.

18 Q. Were you aware, Doctor, that in  
19 testimony before this Commission Dr. Rowe testified at  
20 Volume 17, page 2886 to page 2887 that it was his  
21 understanding from the language of the preliminary  
22 autopsy report that you were uncertain as to the cause  
23 of this child's death in that you were not prepared  
24 to accept the diagnosis of SIDS without further studies?

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Were you aware that he had given that  
evidence?

3

A. No.

4

Q. Have you discussed the contents  
of your preliminary autopsy report with Dr. Rowe?

5

A. No, I have not.

6

Q. I take it then, Doctor, on the  
basis of your evidence that Dr. Rowe misinterpreted  
that penultimate paragraph in the preliminary autopsy  
report?

7

A. Yes.

8

Q. Were you aware as well that  
Dr. Fowler testified before the Commissioner (his  
evidence, Mr. Commissioner, is found at Volume 34,  
page 6493) that on his reading of the autopsy reports,  
both the preliminary and the final autopsy reports, he  
felt and he concluded that you considered SIDS, again  
SIDS not missed-SIDS, as no more than a possibility,  
and felt it merited further consideration by  
microscopic study of the conduction system?

9

He went on to say in respect of the  
preliminary autopsy report that it poses no more than  
a question, that it didn't attempt to give an answer  
because in what he thought was your opinion you were  
not sure what the cause of death was.

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2                   Were you aware that Dr. Fowler had given  
3                   that evidence before this Commission?

4

A.           I don't believe I am, no.

5

Q.           Had you discussed the contents  
6                   of your preliminary autopsy report with Dr. Fowler  
before he testified?

7

A.           No, I did not.

8

Q.           Finally, Doctor, were you aware  
9                   that Dr. Rose testified in evidence before this  
Commission that in her view on the basis of your report  
10                  (this was yesterday morning) you did not appear to be  
certain as to the cause of death?

11

12                  Were you aware that she had given that  
evidence?

13

14                  A.           No, I was not. I didn't - no, I  
was not.

15

16                  Q.           Did you discuss the contents of  
17                   your preliminary autopsy report and final autopsy  
report at any stage with Dr. Rose before she gave  
18                  evidence?

19

20                  A.           No. We did discuss some - I  
don't think we actually discussed the pathology report,  
21                  no.

22

Q.           I take it then, Doctor, --

23

A.           But I did have conversations with

24

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2 her before she appeared, yes.

3 Q. With respect to your conclusions  
4 as to cause of death?

5 A. Not really very directly, no.

6 Q. I take it then, Doctor, fairly  
7 that we are left in the position where it would appear  
8 that Dr. Rowe, Dr. Fowler and Dr. Rose all mis-  
9 interpreted what you meant to convey as a terminal  
10 diagnosis for this child having regard to the language  
which you used in these reports?

11 A. Well, I agree with you, but on  
12 the other hand they are not very familiar with the  
13 Syndrome, Sudden Infant Death Syndrome. Again it is  
14 pretty well being a pathologic diagnosis, the  
15 pathologist is the one that sees the diagnosis of  
16 Sudden Infant Death Syndrome and has an idea of the  
17 problems that are involved. The cardiologist may not  
see this diagnosis in many years.

18 THE COMMISSIONER: No, I think the  
19 complaint is the manner of expressing your opinion.

20 THE WITNESS: Oh, sure.

21 THE COMMISSIONER: It is not your  
22 opinion, it is not to suggest that anyone is getting  
23 anywhere close to you in the knowledge to find what  
24 will constitute a finding, but you didn't express it

25





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2 very well, that is all.

3

THE WITNESS: Yes.

4

THE COMMISSIONER: The suggestion, and  
perhaps it is an unfair one, but that is what the  
suggestion is.

5

THE WITNESS: Correct.

6

THE COMMISSIONER: When you look at it  
again and try to divorce all the knowledge that you  
have, but if you were just receiving this report from  
some other pathologist --

7

THE WITNESS: Yes.

8

THE COMMISSIONER: -- would you not  
have the same difficulty?

9

THE WITNESS: Yes, I agree.

10

MS. CRONK: Q. And, Doctor, on that  
very issue you told us that by the time the final  
autopsy report was completed on the 25th of March, the  
Metropolitan Toronto Police were involved in their  
investigation. And I take it at some point you then  
became aware that the coroner was addressing this case?

11

A. No, I did not have any awareness  
that anyone was particularly interested in this case.  
I was only aware that all of those cases that had been  
autopsied during some period of time in March were being  
looked at by the Coroner's Office. But I had no

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2 communication with the coroner directly about which  
3 cases he was interested in.

4 Q. At the time you conducted the  
5 autopsy on Jordan Hines, Doctor, to your knowledge  
6 had the case been reported to the coroner by the  
7 hospital?

8 A. No.

9 Q. Did it occur to you that it  
10 might be appropriate to do so?

11 A. No, it did not.

12 MS. CRONK: Mr. Registrar, could you  
13 show Dr. Becker Exhibit 150, please, if you would?

14 Mr. Commissioner, I am conscious of  
15 the time. I think with another 10 minutes I might be  
16 finished my examination in chief of Dr. Becker. If  
17 you would like to continue at this time I am in your  
18 hands, or if you wish, after this final point we can  
19 continue after lunch.

20 THE COMMISSIONER: Well, if it is a  
21 convenient time I think we might - if it is going to  
22 be 10 minutes, we all know that can be 10 or 15.

23 MS. CRONK: Right.

24 THE COMMISSIONER: Particularly if  
25 you get a garrulous commissioner on your hands.

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MS. CRONK: Can I take another two

minutes at this stage then?

THE COMMISSIONER: Yes take another

two minutes by all means.

MS. CRONK: Thank you, Mr. Commissioner.

Q. Doctor, we have heard in evidence from Dr. Rose that the Hines child was diagnosed at the referring hospital as having sick sinus syndrome; she also testified that was one of the matters that she was concerned with at gross autopsy.

Can you tell me first, either at gross autopsy or during the conduct of the standard autopsy itself, was that a potential problem that presented itself to you?

A. Well, sick sinus syndrome I think is associated with a virus infection. So I was thinking at the time of autopsy primarily of a viral myocarditis, that was our presumptive diagnosis.

Q. Doctor, you have told me as well that by the time the final autopsy report was signed on Jordan Hines, because the police were involved, you expected at that time that the normal procedures might not be followed, and you were not sure who had received copies of the preliminary and





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2 autopsy reports, do I have that correctly?

3 A. Yes.

4 Q. Given the involvement of the  
5 Metropolitan Toronto Police, did it occur to you  
6 that copies of those reports might ultimately be  
7 provided to the Coroner's offices?

8 A. Yes.

9 Q. Doctor, you have before you  
10 Exhibit 150, which is the coroner's investigation  
11 statement with respect to Jordan Hines. You will  
12 see Doctor that the results of the investigation is  
13 reported in paragraph 2; the date of death is shown  
14 as the 8th of March, 1981; the place of death the  
15 Hospital for Sick Children; and the cause of death  
16 is indicated to be sick sinus syndrome. Do you  
17 recall Doctor ---

18 THE COMMISSIONER: I haven't got 150,  
19 I haven't got that.

20 MS. CRONK: This is the portion,  
21 Mr. Commissioner, of the exhibit amended yesterday,  
22 that we marked yesterday and it is added to the back  
23 of Exhibit 150.

24 THE COMMISSIONER: I guess it just  
25 hasn't been added to mine yet.

MS. CRONK: Q. Do you see that section





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3 of the report, Dr. Becker?

3 A. Yes.

4

Q. Where the results of the  
investigation are set out?

5

A. Yes.

6

Q. Do you see where the cause  
of death is indicated to be sick sinus syndrome?

7

A. Yes.

8

Q. Did you have any discussions  
with either Dr. Tepperman of the Coroner's office,  
or any other representative of the Coroner's offices  
with respect to your terminal diagnosis for this  
child?

9

A. No, I did not.

10

Q. Were you aware, Doctor, that  
the coroner's investigation - I am sorry, were you  
aware that the coroner had concluded and described  
the cause of death of this child as being attributable  
to sick sinus syndrome?

11

A. No, I did not.

12

Q. To your knowledge, was your  
terminal diagnosis of missed-SIDS brought to the  
attention of the Coroner's office by anyone else in  
the hospital?

13

A. Not to my knowledge, no.

14

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Q. Was it brought by you to  
the attention of the Metropolitan Police after you  
had signed the final autopsy report?

3

4

A. I had assumed that that  
communication was the report itself, but I never  
verbally communicated with anyone, no.

5

6

7

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10

Q. You didn't have any discussions  
with the representatives of the Metropolitan Toronto  
Police with respect to the contents of your preliminary  
and final autopsy report?

11

A. No.

12

13

14

15

Q. Similarly, Doctor, did you  
personally have any discussions with Mr. and Mrs.  
Hines at any stage after completion of the autopsy  
with respect to the manner and cause of their child's  
death?

16

A. No, I did not.

17

18

19

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Q. We have heard in evidence,  
Doctor, that Dr. Fowler did meet with Mr. and Mrs.  
Hines in the summer of 1982 for the purposes of  
further discussion with them on the cause of death  
of their child. At any point after the completion  
of your preliminary and final autopsy reports, did  
Dr. Fowler approach you or discuss with you the  
conclusions that you had reached as to the terminal





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2 diagnosis of this child?

3 A. No.

4 Q. . Similarly, at any time after  
5 you signed the final autopsy report, did Dr. Rose  
6 raise with you, or discuss with you, the conclusion  
7 and the final diagnosis that you had reached for this  
child?

8 A. No, she did not.

9 MS. CRONK: Mr. Commissioner, may we  
10 break there.

11 THE COMMISSIONER: Yes all right.

12 MS. CRONK: Thank you.

13 THE COMMISSIONER: Until 2:30 then and  
14 you will remember we are rising at 3:30 this afternoon  
so we just have an hour.

15 MS. CRONK: We do have some scheduling  
16 difficulties, Mr. Commissioner, and perhaps Mr. Lamek  
17 and I can discuss those at lunch and advise you this  
18 afternoon.

19 THE COMMISSIONER: Yes, all right then  
20 until 2:30.

21 ---Luncheon adjournment.

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2        ---On resuming at 2:30 p.m.

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THE CHAIRMAN: Yes, Ms. Cronk.

4

MS. CRONK: Thank you, sir.

5

Q.       Dr. Becker, you told me  
earlier this morning about a number of conferences  
held internal to the Pathology Department, organized  
on a weekly basis I think you said by Dr. Gillan?

6

A.       Yes.

7

Q.       Can you help me, Dr. Becker,  
to the best of your recollection was the death of  
Jordan Hines and the results of the autopsy on his  
body discussed at a weekly pathology conference?

8

A.       No.

9

Q.       Did you yourself raise that the conclusion  
you had reached in respect of the terminal diagnosis  
for Jordan Hines, with any of your fellow pathologists  
after having completed the autopsy?

10

A.       I don't recall discussing it  
in any formal way, no. Although the subject may have  
come up but I don't recall any particular conversation.

11

Q.       Thank you, sir. You have told  
us well, Doctor, this morning on the basis of the  
evidence of Doctors Rowe, Fowler and Rose which I  
drew to your attention, that those doctors had  
misinterpreted the final penultimate paragraph

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2 contained in the preliminary and final autopsy  
3 reports that were prepared by Dr. Sugar and yourself.  
4 Do you recall that discussion this morning?

5 A. Yes.

6 Q. It is my understanding, Dr.  
7 Becker, that after the Metropolitan Toronto Police  
8 became involved in the investigation in the number  
9 of deaths at the hospital on March 22nd, 1981, that  
10 Dr. Mancer was provided, on Tuesday March 24, 1981,  
11 with a list of patient names and dates of death by  
12 the officers from the Metropolitan Toronto Police  
13 Force.

14 It is further my understanding in  
15 respect of that, that the pathologists were then  
16 asked by the representatives of the Metropolitan  
17 Toronto Police Force, to expand upon the list using  
18 as a data base the final autopsy reports of the  
19 patients in question.

20 Were you aware, sir, that the  
21 pathologists, that your colleagues in the Pathology  
22 Department had been requested to do that by the  
23 Metropolitan Toronto Police?

24 A. Yes I was aware that there  
25 was some request but I was not aware of any of the  
details of the request.





Becker, dr.ex.  
(Cronk)

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Q. I take it you didn't participate  
then in whatever efforts were carried out to comply  
with the request?

3

A. I participated to the extent  
that the autopsies, the autopsy reports that is, were  
completed as soon as possible.

4

Q. Doctor, I am showing you what  
I understand to be a copy of the list of children  
whose deaths were noted by the Metropolitan Toronto  
Police, and which were provided to them by Dr. Mancer,  
again as I understand it on March the 24th. I would  
ask you if you have seen this list previously? Have  
you seen that list prior to today, Doctor?

5

A. No, I don't recall seeing it.

6

Q. Doctor, you will note that  
amongst the names listed on the list is that of Jordan  
Hines; the date of death is recorded as March 8th,  
1981; and the only other information on the list which  
I can decipher is an apparent autopsy number, No. 6881,  
do you see that, Doctor, beside Jordan Hines' name?

7

A. It is very difficult to see  
the number.

8

Q. On the right hand side of the  
page?

9

A. Yes.

10

11





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(Cronk)

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2 MS. CRONK: Mr. Commissioner, subject  
3 to later proof I would ask that this be marked now  
4 as the next exhibit.

5 THE COMMISSIONER: 197.

6 ---EXHIBIT NO. 197: List of patients provided to  
7 Dr. Mancer by Metropolitan Toronto  
8 Police.

9

10 MS. CRONK: With your indulgence,  
11 Mr. Commissioner.

12 THE COMMISSIONER: Yes.

13 MS. CRONK: Q. Doctor, I am showing  
14 to you what I understand to be a list which was  
15 prepared by the pathologists in response to the  
16 request from the offices of the Metropolitan Toronto  
17 Police, and once again I would ask you if you have  
18 seen this list prior to today. Have you seen that  
19 list prior to today, Doctor?

20 A. I don't believe I have.

21 THE COMMISSIONER: This is a list  
22 provided by whom to him?

23 MS. CRONK: My information, Mr.  
24 Commissioner is that this is the list provided by  
25 the pathologists, prepared by the pathologists in  
response to the request made of them by the Metro-  
politan Toronto Police.





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2 THE COMMISSIONER: Is that a response  
3 to the previous exhibit?

4 MS. CRONK: To make it clear, Mr.  
5 Commissioner, the information that has been provided  
6 to Commission Counsel is that Dr. Mancer was  
7 provided with the first list on March 24th, the  
8 Tuesday, with the request that the Pathology  
9 Department add to the list of deaths by using as a  
10 data base for them doing so the final autopsy reports  
11 that were kept in the Pathology Department. That  
12 was in fact done on the evening of the 24th of March  
13 and the next morning the 25th, and this was the list  
14 prepared as a result of that request. It is my  
15 understanding that the list that was back-prepared,  
16 the second exhibit, may not in fact have been  
17 delivered at that stage to the Metropolitan Toronto  
18 Police but it was prepared by the pathologists.

19 THE COMMISSIONER: Yes, all right,  
20 198.

21 MS. CRONK: Thank you.

22 ---EXHIBIT NO. 198: List of children autopsy date-  
23 cause of death.

24 THE COMMISSIONER: Have you ever seen  
25 that before, Doctor?

26 THE WITNESS: No.

27 MS. CRONK: Subject to proof again,





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Mr. Commissioner.

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Q. Doctor, I ask you to address your attention if you would to the names recorded in the category of names recorded on the left hand side of the page. Once again we see Jordan Hines' name; do you see that, Doctor?

8

A. Yes.

9

Q. And once again we see his date of death being March the 8th, 1981; do you see that, Doctor?

10

A. Yes.

11

Q. And under the category entitled "Autopsy", once again we see the autopsy No. 6881.

12

A. Yes.

13

Q. Do you see that?

14

A. Yes.

15

Q. In the category entitled Diagnosis, Doctor, we see this entry do we not:

16

"Crib death bradycardia"

17

A. Yes.

18

Q. Is that the entry?

19

A. Yes.

20

Q. Doctor, were you aware that that is the diagnosis that had been listed by your

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2                   colleagues in the Pathology Department with respect  
3                   to the death of Jordan Hines?

4                   A.         No, I was not.

5                   Q.         Would you agree with me, Doctor,  
6                   that that language suggests that there is some  
7                   question as to whether or not his death was in fact  
8                   attributable to a crib death?

9                   A.         I would have assumed that  
10                  this had been done before the final autopsies were  
11                  complete.

12                  Q.         Well again, Doctor, subject  
13                  to proof, as I say the information that has been  
14                  provided to me by Counsel for the Hospital is that  
15                  the list was compiled during the evening of Tuesday  
16                  March 24th and during the morning of March 25th.  
17                  We know from your earlier evidence that the final  
18                  autopsy report was dated and signed by you on  
19                  Wednesday the 25th of March; and the preliminary  
20                  autopsy report I think you said some time in advance  
21                  of that?

22                  A.         Probably, yes.

23                  Q.         In any event, Doctor, I'm not  
24                  sure I had an answer to my question. My question was,  
25                  would you agree with me that the language contained  
                        in this list suggests that there is in the minds of





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the pathologists who made that entry some question  
as to whether or not Jordan Hines death was in  
fact attributable to crib death?

5

A. Yes.

6

Q. There was no suggestion there  
on that list again, Doctor, of missed-SIDS?

7

A. No.

8

THE COMMISSIONER: Well, a crib death.

9

10

MS. CRONK: Q. I'm sorry, could apply  
to other missed-SIDS or SIDS I take it.

11

A. Yes.

12

13

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19

I take it then Doctor, that  
it would appear that if the pathologists who completed  
that form had reference either to the preliminary  
autopsy report, or to the final autopsy report, or  
indeed to both, and we don't know yet which and  
perhaps Dr. Mancer can help us with that when he  
testifies, it would appear that they as well had  
misinterpreted the penultimate paragraph of those  
reports; would you agree with that?

20

A. Yes.

21

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Doctor, I would like to return  
to the question of arrhythmias. You will recall that  
in the final paragraph of the autopsy reports on  
Jordan Hines, you indicated, after you had described





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2 the pathological findings that were evident at  
3 autopsy, and your diagnosis as you have explained it  
4 to us today, you indicated, and the languages:

5 "However this does not explain the  
6 arrhythmias and further conclusions  
7 would have to await examination of the  
conducting system".

8 As I understood your evidence this  
9 morning, Doctor, you told me that you were concerned  
10 when you used the word "arrhythmias" with the  
11 association of the tachycardia that had been experienced  
12 by this child during life, with the periods of apnea,  
do I have that correctly?

13 A. You mean that I was - yes, I  
think that is correct.

15 Q. I just want to be clear as to  
what you were referring to when you used the word  
17 "arrhythmias". I thought you said this morning you  
18 were thinking about the tachycardia?

19 A. Yes, and the bradycardia.

20 Q. And the bradycardia, right.  
21 You told me as well, as I understood your evidence  
22 this morning, that you did not intend by the use of  
that language in the autopsy reports to suggest that  
23 arrhythmias per se were inconsistent with a finding of

24

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2 missed-SIDS; do I have that correctly? That was not  
3 your intention?

4 A.        Would you say that again  
5 please.

6 Q.        I had understood you to say  
7 this morning, Doctor, that when you used that language,  
8 that sentence.

9 A.        Yes.

10 Q.        In the autopsy reports, you  
11 were not intending to suggest that there was some  
12 inconsistency between arrhythmias and the terminal  
13 diagnosis of missed-SIDS?

14 A.        Yes.

15 Q.        That was not your intention?

16 A.        Yes.

17 Q.        Were you aware, Doctor, of  
18 the references which this Commission has seen in a  
19 number of articles, and in the medical literature,  
20 that cases of arrhythmias in association with, for  
21 the terminal diagnosis of SIDS have in fact been  
22 reported. Were you aware of that, those findings  
23 in the literature at the time you did the final  
24 autopsy report on Jordan Hines?

25 A.        I may or may not have been.  
26 My interests were more on a morphological basis than  
27 arrhythmias. My expertise is not in the clinical





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2 interpretation of arrhythmias. So that I probably  
3 was aware that there was that relationship.

4 Q. You are aware of it today  
5 I take it?

6 A. Yes.

7 Q. Doctor, were you aware as  
8 well that Dr. Rowe in his testimony before the  
9 Commissioner, and this is found sir at Volume 17,  
10 page 2856, testified that on the basis of the language  
11 which appears in the autopsy reports that were  
12 prepared under your signature, that he felt that  
13 you did not appear to regard cardiac arrhythmias  
14 as being a usual accompaniment to SIDS?

15 A. Yes.

16 Q. Are you aware that he testified  
17 in that regard?

18 A. Yes.

19 Q. And I take it, because you  
20 told me earlier that you had not discussed with Dr.  
21 Rowe prior to his testimony here, the final diagnosis  
22 which you had made on Jordan Hines, and you had not  
23 discussed with him as well the issue of arrhythmias  
24 and the reference you have made, is that correct?

25 A. Yes.

Q. I take it then Doctor that on





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2 the basis of Dr. Rowe's evidence, we can agree that  
3 he appears to have misunderstood that section of the  
4 autopsy reports as well, at least misinterpreted it.

5 A. I am not sure I am following  
6 correctly. I meant to imply the same thing, that the  
7 arrhythmias are not serious, or not ---

8 Q. Did you mean to convey,  
9 Doctor, in the autopsy reports?

10 A. Yes.

11 Q. That arrhythmias were not the  
12 usual accompaniment of SIDS, of missed-SIDS?

13 A. Yes. It has to be divided up  
14 a little bit there, because the bradycardia is  
15 frequently associated with the apnea which in turn  
16 is associated with the Sudden Infant Death Syndrome.  
17 However, the tachycardia aspect of the arrhythmias is  
18 exceedingly interesting, and it was that aspect that  
19 I was interested in investigating.

20 Q. And by exceedingly interesting,  
21 do I take it that you considered that the tachycardia  
22 associated with those episodes of apnea were unusual?

23 A. I believe they had been reported,  
24 but certainly unusual I thought in my experience.

25 Q. And having regard to the fact  
26 that there were reported instances during Jordan Hines





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2 life when he had experienced tachycardia, as well  
3 as having experienced apnea episodes, did those  
4 two facts in combination present to you some degree  
5 of discomfort in diagnosing his death as missed-  
SIDS?

6 A. Not at all. I was quite  
7 confident that the diagnosis was Sudden Infant Death  
8 Syndrome. But I was exceedingly interested in the  
9 fact that in this child there was apnea, there was  
10 bradycardia and there was tachycardia, and probably  
11 all of these things could be explained by the  
12 abnormality that I was finding in the brain stem.  
13 So I was very interested in this question in an  
14 academic sense. I thought this case was of particular  
interest because of that.

15 Q. I take it then that you saw  
16 no inconsistency between the existence of tachycardia  
17 and apnea during life, and the terminal diagnosis  
18 of missed-SIDS?

19 A. No, not with my hypothesis  
20 that there was something wrong with the neural  
control respiration.

21 Q. Thank you Doctor. Doctor, you  
22 recall as well that in the concluding language of the  
23 autopsy reports you suggested that further conclusions,  
24

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or to be fair, further conclusions with respect to  
the arrhythmias would have to await examination of  
the conducting system?

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A. Yes.

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Q. I take from that that it was  
your intention at that time to actually undertake  
a study of the conducting system?

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A. I was exceedingly interested  
in the conducting system to show it was normal. I  
had every intention of pursuing that if I could convince  
somebody to look at the conducting system.

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Q. Let me ask you first then,  
Doctor, as I understand it from what you have just  
said, the purpose of carrying out a study of the  
conducting system on Jordan Hines, was to determine  
whether or not there was any irregularity in the  
conducting system itself?

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A. No, this was an academic  
question. I was interested in knowing whether there  
were any morphological changes in the conducting system  
in terms of trying to explain the hypothesis that I  
have just gone through several times. I wanted to show  
that the abnormality was in the brain stem and there  
was no abnormality in the conducting system.  
Morphologically, now, there may have been an abnormality





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2       in some other sense chemically or biochemically,  
3       but my interest was to show that the conducting  
4       system itself morphologically was normal. Therefore  
5       giving credence to the abnormality in the brain stem  
6       which I was investigating.

7

Q.       I see, thank you, Doctor.

8

MR. OLAH: Just so it is clear, I  
9       am not sure we are all entirely clear about what  
10      it means by conducting systems, I understand it was  
11      the conducting system of the heart.

12

THE COMMISSIONER: That's right.

13

MS. CRONK: I'm sorry I had assumed  
14      that was the case.

15

THE COMMISSIONER: Is it anything  
16      else?

17

MS. CRONK: Q. Is that right, Doctor?

18

A.       Yes.

19

MR. OLAH: Perhaps the witness can take  
20      a moment to explain to us this word that he keeps  
21      using, morphologically.

22

MS. CRONK: Q. Could you explain that  
23      Doctor?

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3 MS. CRONK: Q. Could you explain that,  
Doctor?

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5 A. Well, pathologists use the  
6 term morphological all the time because they're  
7 looking at tissue and they're looking at it down  
8 the microscope. So, when I say morphological  
9 I mean that we are looking at the tissue as we would  
10 see it down the microscopic. So, we are going to  
11 ignore things that perhaps could be determined by  
12 a chemical assay or by some other type of assay.  
The pathologist tool really is morphological,  
he is looking down the microscope at tissue.

13

MR. OLAH: Thank you, Doctor.

14

15 MS. CRONK: Q. Doctor, the evidence  
16 to date has been that that study of the conducting  
17 system of the heart was not in fact carried out  
18 with respect to Jordan Hines, is that correct?

19

A. Yes, that's correct.

20

21 Q. Can you help me as to why it  
22 was not carried out?

23

24 A. Well, in trying to assist the  
police in their investigation I understand that the  
heart had been transported to the police in terms  
of their ongoing investigation at that time.

25

Q. Do you know when that occurred,





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Doctor?

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A. No, I don't know the exact date but it was some time subsequent to the autopsy or subsequently to the completion of the autopsy.

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THE COMMISSIONER: Could it have been carried out? Do we have some question as to whether you could conduct it certainly in the facilities that were available?

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THE WITNESS: Yes.

THE COMMISSIONER: Could you have done that yourself?

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THE WITNESS: No, I could not have done the conducting system. What I had planned on doing was having Dr. Wilson, who is a cardiopathologist and whom I knew was coming on staff in July of 1982 and my intention was to convince him to do conduction systems of the heart. He has done it before. But it is not a procedure that any pathologist can do.

MS. CRONK: Q. I take it then, Doctor, first that at the time that you did the final autopsy report on Jordan Hines there was no one on staff in the Pathology Department or elsewhere in the Hospital who could have undertaken that study?

A. That's correct.

Q. All right. Simiarly, at the





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2 time that you did the final autopsy report you knew  
3 that Dr. Wilson's appointment to the Hospital was  
4 going to be effective the beginning of July, I think  
5 you said?

6 A. Yes, that's right.

7 Q. So that at the time you wrote  
8 the report it was your intention that the study be  
9 done providing that Dr. Wilson would undertake it?

10 A. Yes. I would have to convince  
11 him that it would be a worthwhile procedure to  
12 undertake because it would be time consuming as well  
as expensive.

13 Q. All right. Doctor, prior to  
14 Dr. Wilson's arrival at the Hospital in July, to your  
15 knowledge had a study of the conduction system of any  
16 patient on a postmortem basis been undertaken at the  
Hospital?

17 A. Not to my knowledge. A conduction  
18 system of the heart is a very specialized procedure,  
19 almost in the research category.

20 Q. We have heard, Doctor, as well  
21 that to actually carry out one of those studies as  
22 you have indicated it would be a very time consuming  
process?

23 A. Skill and time consuming because

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3 in terms of the skill you have to know exactly where  
4 the conducting system is in the heart. If you are  
5 a millimetre out you will miss the conducting system  
6 and you will be unable to examine that part of the  
7 heart. So, it is very important first of all that  
8 the person doing the study has the ability to know  
9 where the conducting system is and then it is a  
10 matter of taking the appropriate tissue and processing  
11 it appropriately and then interpreting it appropriately.

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Q. All right. Doctor, you have told us that the heart of Jordan Hines was, as you understand it, removed from the Hospital at some point following the investigation commenced by the Metropolitan Toronto Police. Can you help me, Doctor, when did you learn that the heart had been removed from the Hospital?

A. I'm not sure when I learned.

It was some time in the months following the autopsy, probably into - it could even have been on into July.

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Q. All right. Doctor, we know that various tissue samples were taken as part of the standard autopsy that was carried out on Jordan Hines, you told us that earlier today?

A. Yes.

Q. Could those tissue samples,





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which I take it included those tissue samples, which  
I take it included tissue samples of the heart?

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A. Certainly.

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Q. All right. Could they not have  
been utilized for the purposes of carrying out the  
conduction study even though the heart itself was  
no longer physically available at the Hospital?

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A. No, they certainly could not  
have been.

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Q. Why is that, Doctor?

A. Because as I just mentioned

to you, the conducting system is a very precise  
location in the heart and one must know exactly where  
to take the sections for examining the conducting  
system. The standard sections for the heart would  
not include those belonging to the conducting system.

Q. I take it then the pathologist

who is going to do that kind of a study must be in  
the position of being able to observe the heart in  
its entirety.

A. Yes. If a section was missing

in terms of the heart it probably wouldn't make a  
difference unless by chance the section had been  
taken from the conducting system.

Q. Thank you, Doctor.





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THE COMMISSIONER: I find it hard to believe but I take it the conduction system can still be examined after the heart ceases to beat?

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THE WITNESS: We are looking at the conduction system though from a morphological point of view. So that we are only looking at it from one aspect as you suggest. There are many aspects. You can look at it electrically, chemically, or many other ways, that's true.

10

MS. CRONK: All right.

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Q. Doctor, as well you recall that I drew to your attention earlier this morning the fact that the doctor who had referred Jordan Hines to the Hospital for Sick Children had diagnosed the child as having sick sinus syndrome, do you recall that?

16

A. Yes, I do.

17

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Q. All right. And you recall as well that I drew your attention to Dr. Rose's testimony, that that was one of the matters with which she was concerned at the time of the gross autopsy?

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A. Yes.

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Q. Do you recall that?

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A. Yes, I did say that.

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Q. Doctor, without a conduction,  
without a study of the conduction system being  
carried out after the death of the child, is it in  
fact possible to rule out sick sinus syndrome as  
a potential cause of death?

A. I don't know.

Q. All right. So that knowing  
that the conduction system you hoped would be under-  
taken but in fact was not undertaken I take it that  
at this stage you cannot rule out sick sinus syndrome  
as a possible cause of death of this child?

A. No, I said I don't know. I  
don't know if there are morphological findings in  
sick sinus syndrome. I'm not familiar with the  
syndrome other than I believe it is probably an  
abnormality in the conduction system but whether there  
is actually a morphology that is something you  
can see under the microscope, wrong with that  
conducting system in sick sinus syndrome, I don't  
know.

Q. Thank you, Doctor. And in the  
absence ---

A. So, I can't answer that question

Q. Thank you, Doctor. In the  
absence of the study being in fact carried out then





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I take it you can't help us as to what one might expect to find with respect to sick sinus syndrome?

A. No, I cannot.

Q. Thank you. Doctor, as well, can you help me with this. We know that, and you have told us earlier this morning that the possibility of a missed-SIDS diagnosis was one that occurred to you prior to commencing the gross autopsy. Do I have that correctly?

A. Yes. Yes, it goes through my mind.

Q. All right. Doctor, to the best of your knowledge were you and Dr. Sugar the first to raise missed-SIDS or SIDS as a possible terminal diagnosis in respect of Jordan Hines?

A. I don't know. We certainly didn't raise the issue at that point, that would have been premature. It is necessary really to look at the tissues and examine them under the microscope before that diagnosis is entertained.

Q. Well, ultimately it was raised of course, Doctor, in the preliminary and final autopsy reports. My question perhaps badly put was simply to the best of your knowledge, prior to that, prior to those reports, insofar as you were

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aware had missed-SIDS or SIDS been raised as a  
possible explanation for this child's death?

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A. Well, as soon as we saw the  
gross autopsy findings, as I mentioned earlier, the  
presence of petechia in the thymus is something that  
we see in Sudden Infant Death Syndrome and, so, it  
raises the possibility but I would never jump to that  
conclusion just based on ---

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THE COMMISSIONER: What about other  
people? Have you heard of anybody else having mentioned  
that possibility before it occurred to you?

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THE WITNESS: No, no.

12

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THE COMMISSIONER: All right.

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MS. CRONK: Q. Thank you, Doctor.

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Doctor, can you tell me as well at the  
time of conducting the autopsy on Jordan Hines, be  
it the gross autopsy or the standard and full autopsy  
that you have described to us, at that time had the  
possibility of digoxin intoxication intoxication  
as a possible explanation for or a cause of his  
death occur to you?

A. No.

Q. All right. Am I right, Doctor,  
that if a child experiences several apneic periods  
during life that each time one of those episodes or





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periods occurs it will result in changes internally  
to the structure of the organs of the body such that,  
for example, if a number of those episodes during  
life are suffered by a child, scarring in the brain  
might start to occur?

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A. It would take at least two weeks in order for the scarring of the brain to occur. This is a chronic change, doesn't occur acutely. So, the apneic spells must have occurred at least two weeks prior to death in order for those changes in the brain to occur.

Q. All right. And assuming that they did and the apneic period did occur two weeks prior to the death of the child and the child lived longer than two weeks and experienced one or more of these periods, am I correct that for example scarring in the brain might start to occur with each episode?

A. Yes.

Q. All right. And similarly the other four pathological features that you have described to us will start to emerge in the body given the ongoing experience of apneic episodes?

A. Probably, yes.

Q. All right. Doctor, can you





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help me then that if, and let's deal with a child  
who is known to have more than one apneic episode  
during his or her life, as was the case with Jordan  
Hines.

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THE COMMISSIONER: I'm sorry, you  
said the other four?

8

MS. CRONK: The four principal  
pathological findings.

9

10 THE COMMISSIONER: I have one of them  
which presumably is the scarring of brain, that's  
11 number one.

12

MS. CRONK: That's right, sir.

13

THE COMMISSIONER: What's the other  
14 three?

15

MS. CRONK: Oh, I'm sorry, the other  
three, yes.

16

Q. Were you clear on that, Doctor,  
when I asked, and perhaps not, I mentioned specifically  
scarring of the brain as one of the four principal  
pathological findings that you have drawn to our  
attention?

21

A. Yes.

22

Q. There were three others?

23

A. Yes.

24

Q. And my question properly put is

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that if a child experiences several apneic periods  
during life will the other three findings which you  
expect to see at autopsy begin to emerge in the body?  
Would there be evidence of them, would they start  
to take effect as those apneic periods occur?

3

A. No one knows exactly when they  
occur but I would presume that they would be occurring  
during those apneic spells, yes.

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Q. Thank you, Doctor.

THE COMMISSIONER: Well, I'm getting

a little lost now. If all of these symptoms arise  
really from apneic periods in the course of the  
child's life how do you know he died of SIDS?

MS. CRONK: Again you anticipate me,

sir.

THE COMMISSIONER: I'm sorry, I'm  
sorry.

MS. CRONK: That's all right. The  
question is succinctly put.

THE WITNESS: Perhaps you can say  
that again.

MR. TOBIAS: Could the question be  
repeated, I missed that exchange.

MS. CRONK: Perhaps, Mr. Commissioner,  
if I might assist.





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THE COMMISSIONER: All right.

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MS. CRONK: Q. Doctor, if as a result  
of various apneic episodes during life.

5

A. Yes.

6

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Q. Pathological changes begin to  
emerge in the body?

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A. Yes.

10

Q. There's an effect caused  
internal to the organs of the body with each one  
of those episodes?

11

A. Yes.

12

13

Q. And the child subsequently  
dies?

14

A. Yes.

15

Q. And an autopsy is conducted?

16

A. Yes.

17

Q. And at the autopsy those  
pathological findings are observed?

18

A. Yes.

19

Q. And noted?

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A. Yes.

21

Q. Right. In the hypothesis  
which I wish to put to you, Doctor, is a situation  
of a child where precisely that has happened, the  
child has experienced a number of those episodes,

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2 those pathological events start to occur during life,  
3 an autopsy is subsequently performed and they are  
4 observed and confirmed at autopsy but in the interval  
5 between the apneic periods and death the child is  
6 administered a lethal dose of digoxin intoxication,  
7 you then carry out the autopsy and you see the  
8 pathological findings of missed-SIDS because they  
9 started to develop. How then do you know that the  
10 child has died from missed-SIDS and not digoxin  
11 intoxication?

12 A. And where is the digoxin, I'm  
not sure.

13 THE COMMISSIONER: Yes, all right.  
14 I was going to give you a chance to answer that  
15 question, but can't we leave digoxin out of this  
16 equation altogether. We have a child with apneic  
17 periods.

18 THE WITNESS: Yes.

19 THE COMMISSIONER: All of these  
20 symptoms that you say are indicative of SIDS come  
from, after two weeks from the apneic periods:

21 THE WITNESS: Yes.

22 THE COMMISSIONER: How do you know he  
23 died of the Sudden Infant Death Syndrome, why didn't  
24 he just die from some other cause, the apneic periods  
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have given him all the symptoms that you say are indicative of SIDS.

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THE WITNESS: Well, but that is by the definition of the Sudden Infant Death Syndrome. These are very characteristic findings of that syndrome, those pathological findings and the history of that.

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MS. CRONK: Q. I take it though, Doctor, that they are not conclusive of missed-SIDS, they are not specific to missed-SIDS.

10

A. What is not specific?

11

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Q. Those pathological findings

together with the clinical history of apneic periods.

13

A. I would say very specific.

14

I can't think of any other situations unless you can.

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Q. Well, with your concurrence, Mr. Commissioner, I would like to put my hypothesis again.

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THE COMMISSIONER: All right.

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MS. CRONK: Q. And that is, Dr. Becker, simply this, you have a child again who has experienced a number of apneic episodes, the pathological results of those episodes begin to set in, those changes of the body begin to occur, the child is then administered a lethal dose of digoxin or any other potentially





BB16

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2      poisonous drug and the child dies. At autopsy the  
3      pathological findings that are suggestive of missed  
4      SIDS will be observed, will they not?

5                  A.        Yes, that's quite true.

6                  Q.        All right. How do you know  
7      then, Doctor, that the child died of missed-SIDS as  
8      opposed to poisoning by the drug or the agent that  
9      was administered during life?

10                 A.        Well, pathologists can't see  
11      digoxin down the microscope. There is no way for me  
12      to say there was digoxin or there wasn't digoxin  
13      in terms of the microscopic findings. I think the  
14      only way you can come to that conclusion is if you  
15      ignore all of the pathological findings and I as a  
16      pathologist wouldn't even know what the pathological  
17      findings were.

18                 THE COMMISSIONER:    But you don't have  
19      to ignore the pathological findings because you say  
20      that you can get those pathological findings merely  
21      from the periods of apnea.

22                 THE WITNESS:      Yes, but the periods of  
23      apnea are very severe, there is no oxygen going to the  
24      - well, there is not adequate oxygen going to the  
25      tissue.

26                 THE COMMISSIONER:    This child had a





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BB17 history of apnea.

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THE WITNESS: That's right, that's right.

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THE COMMISSIONER: So that those symptoms as you have described them are indicative of SIDS?

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THE WITNESS: Yes.

7

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THE COMMISSIONER: So, he would have had those symptoms whether he had died or not, isn't that right?

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THE WITNESS: Yes.

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THE COMMISSIONER: He would have had them.

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THE WITNESS: Yes.

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THE COMMISSIONER: All right. Then all that Ms. Cronk is putting to you is that if he is having those symptoms, he is then poisoned by a massive overdose of digoxin, it is partly consistent, is it not with that position.

18

THE WITNESS: Yes, yes, it is.

19

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THE COMMISSIONER: Because he could have had those symptoms without having died from SIDS.

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THE WITNESS: In other words, he could have had two things, is that what you are postulating?

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THE COMMISSIONER: Well, one thing





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that gave him the symptoms and another thing that  
killed him.

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THE WITNESS: Except the Sudden  
Infant Death Syndrome is defined by the fact that  
the child has died with this syndrome.

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THE COMMISSIONER: Well, I know it is,  
but you tell me that he can have those symptoms with-  
out dying.

7

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THE WITNESS: Yes.

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THE COMMISSIONER: And you can have  
those symptoms with apnea.

11

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THE WITNESS: But I am not making  
the diagnosis on a clinical basis, I'm making the  
diagnosis on pathology and I don't know of any  
instance where a child has died with those pathological  
findings that has been anything but Sudden Infant  
Death Syndrome.

13

14

THE COMMISSIONER: Well, unless there  
is a massive overdose of digoxin administered to  
the child.

15

16

MR. ROLAND: Well, Mr. Commissioner,  
remember the definition of SIDS, which is, that  
there is no other pathological findings and in this  
case have no other pathological findings by this  
pathologist.

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THE COMMISSIONER: Well, that may well be and I am not blaming the Doctor but I am just saying this isn't necessarily, SIDS is not necessarily the explanation of the death of this child.

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MR. ROLAND: Except that we know we can exclude any other cause of death that would show on a gross autopsy or, as the doctor said, on a standard autopsy. We can exclude the shock to the head and all those things and anything else that would show on a standard autopsy.

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MS. CRONK: Mr. Commissioner, I do think this can be completed very shortly. Doesn't it come down to this, Doctor?

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MR. TOBIAS: Ms. Cronk, if I may just interject. In fairness, I concur with my friend Mr. Roland's comments but I would also emphasize that I believe the Doctor's testimony was that there was no pathological evidence, that doesn't mean to say there was no clinical evidence. He said he can't see digoxin on his microscope.

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THE COMMISSIONER: Well, okay. Well now, I think at the moment Ms. Cronk and I are fighting with the witness and I think I will give you two gentlemen an opportunity to fight with him or





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2 to empathize with him as you see fit.

3

4 MR. TOBIAS: I look forward to the  
opportunity.

5

MS. CRONK: May I continue?

6

7 THE COMMISSIONER: Yes, Ms. Cronk,  
by all means.

8

9 MS. CRONK: Q. Doctor, doesn't it  
10 come down to this that the pathological findings  
of missed-SIDS that you have described to us do not  
rule out digoxin intoxication?

11

A. As a pathologist?

12

Q. Yes.

13

14 A. The pathological findings are  
15 inconsistent with digoxin because they don't explain  
the pathological findings. As a pathologist I have  
16 to explain what you're telling me on the basis of  
a pathologist and the presence of digoxin doesn't  
17 explain the pathological findings which I have  
18 described.

19

THE COMMISSIONER: Or the apnea.

20

21 MS. CRONK: Q. Well, the apnea during  
life does, doesn't it, Doctor? Aren't those findings  
22 fully explainable in the circumstances of a child  
23 who has experienced several apneic episodes during  
24 life?

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A. Which in fact is Sudden Infant  
Death, yes.

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Q. That's right. So, all I am  
saying is that with those findings present and that  
clinical history present, you would come, in ordinary  
circumstances as a pathologist to the terminal  
diagnosis of missed-SIDS?

9

A. That's correct.

10

Q. But that does not necessarily  
rule out the intervention of digoxin in a lethal dose?

11

12

13

14

A. Oh, yes, you would bring up  
any drug or any situation, but the pathologist can,  
in terms of SIDS, is only talking within the confines  
of a standard autopsy.

15

Q. I understand that fully,  
Doctor.

16

17

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21

A. Okay.

Q. Doctor, with respect to this  
issue of digoxin intoxication, fairly, may I ask you,  
are there pathological findings in your view which  
would be consistent or indicative of digoxin intoxica-  
tion, or have you had any experience in that area?

22

A. I have had no experience with  
that area, but as far as I know there aren't.

23

24

25

Q. Doctor, I take it that you are





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1  
2 aware that after the death of Jordan Hines and after  
3 the completion of the preliminary and final autopsy  
4 reports tests were done at the Centre of Forensic  
5 Sciences which showed levels of digoxin present in  
6 certain of the tissues from Jordan Hines' body. I  
7 take it you are aware of that?

8 A. I became aware of that in  
9 January of 1982, yes.

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1 /EMT/ko

2 Q. Doctor, subject to the  
3 interpretation of those, what those levels means,  
4 and whatever interpretation the pharmacologists as  
5 experts in that area may place on them, can we be  
6 certain today, can you in your own mind be certain  
7 today that missed-SIDS is (a) the only terminal  
diagnosis which explains this child's death?

8 MR. STRATHY: Excuse me, Mr.  
9 Commissioner.

10 There may be a technical point, but  
11 since we are being technical today perhaps it is  
12 appropriate to raise it.

13 I think what the Centre for Forensic  
14 Sciences found, at least as stated in their report,  
15 Exhibit 95, was digoxin and/or digoxin-like substances.

16 MS. CRONK: Thank you, Mr. Strathy.  
I am grateful.

17 THE COMMISSIONER: Digoxin and/or?  
18 MR. STRATHY: And/or digoxin-like  
19 substances.

20 THE COMMISSIONER: Oh, yes.

21 MR. STRATHY: So it is really not  
correct to say that it was digoxin that was found.

22 MS. CRONK: Q. Given, Doctor, that  
23 the results from the Centre for Forensic Science on  
24

25





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1  
2 tissue samples from Jordan Hines' body indicated  
3 digoxin or digoxin-like substance, given that you know  
4 that fact, and subject to the intepretation that may  
5 be placed on those levels and those findings by  
6 pharmacologists, can you today with certainty in your  
7 own mind express the view that the only terminal  
8 diagnosis applicable to this child which fully explains  
his death is that of missed-SIDS?

9 A. I don't know what the digoxin  
10 means in the tissues so I can't answer that question.  
11 You would have to ask a pharmacologist.

12 In terms of the pathological findings,  
13 I think that the pathology is quite classical of a  
missed-Sudden Infant Death Syndrome.

14 Q. All right. I understand that,  
15 and I accept that, Doctor.

16 Doctor, given the fact that those levels  
17 on those readings were obtained, does that lessen your  
18 degree of confidence in the explanation of this child's  
19 death being attributed to missed-SIDS as you sit here  
today?

20 A. No, it doesn't because they don't  
21 explain the pathology findings.

22 Q. Doctor, one final area if I may,  
23 and very briefly, you have told us earlier today that

24

25





1

2 in the period 1973 to 1982, as I understood your  
3 evidence, there were 24 deaths at the Hospital for  
4 Sick Children which were attributed to SIDS. Do I  
5 have that correctly?

6

A. Yes, I believe that is correct,  
yes.

7

Q. And those deaths I take it, all  
8 24, were deaths which occurred at the Hospital for  
9 Sick Children?

10

A. Yes.

11

Q. Can you help me, Doctor, or do  
you know how many of those deaths were reported to  
the coroner?

12

A. No, I don't know.

13

Q. All right.

14

Doctor, can you help me or do you know  
how many of those 24 deaths occurred in the cardiology  
ward or cardiology wards in the hospital?

15

A. No, I don't know.

16

Q. In your experience, Doctor, have  
you been involved in conducting a post mortem with the  
exception of Jordan Hines on any infant who died on  
the cardiology wards at the Hospital for Sick Children  
whose death was then attributed to either missed-SIDS  
or SIDS?

17

18





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A. I don't recall any --

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Q. Any case of that kind?

4

A. Situation.

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2 Q. Thank you, Doctor.

3 A. But I wouldn't keep that  
4 information I don't think with me in terms of which  
5 ward a patient died on. It would be very unusual  
6 for I think a pathologist to remember.

7 Q. Well, that may be, Doctor, but  
in any event you don't remember?

8 A. I don't remember, that is correct.  
9 Q. Doctor, one final area of which  
10 I was reminded earlier by Mr. Lamek: if I understood  
11 your evidence earlier this morning correctly you  
12 indicated that drug screens, assays for various drugs,  
13 were not usually ordered by pathologists at The  
14 Hospital for Sick Children but on rare occasions  
they are. Do I have that correctly?

15 A. I think that would be correct.

16 Q. And the example you used I believe  
17 was a coroner's case?

18 A. I said in my experience that had  
been so, yes.

19 Q. Right. Have you personally been  
20 involved, Doctor, as the responsible pathologist in  
21 a coroner's case in a death which occurred at The  
22 Hospital for Sick Children?

23 A. Yes.

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Q. Can you help me, Doctor, when those drug screens are ordered, is there a standard practice or procedure which is followed for the purposes of drawing samples to be used for those drug assays?

A. There is not a particularly standard - well, there is a standard procedure that is used for taking blood, yes. The same procedure is used for taking drug assays as you would use for taking blood to look for infectious agents.

Q. Can you tell me what that standard procedure is, Doctor?

A. One of two things is usually done: either inserting a needle into the heart in order to obtain blood, and the other procedure might be to insert a needle into the dural sinus in the head to remove blood or other sites could also be used to obtain blood. But those would be the two major sites.

Q. Well, I was going to ask you in a moment about the sites from which it would be drawn, but at this moment I am concerned about the mechanics or the methodology by which the sample is taken.

~ You said by inserting a needle. Are you referring to using a syringe for the purposes of





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2 drawing out blood from whatever site is chosen?

3 A. Yes.

4 Q. All right, Doctor. And in respect  
5 we have heard something about what has been described  
6 as a habit of pathologists, particularly when they  
7 are dealing with the heart and other areas of the body,  
8 of using a hot knife to sear the tissues surrounding  
the site from which the sample is to be taken.

9 Are you familiar with that process?

10 A. Well, that type of thing would  
11 be done particularly when one is concerned about  
12 contaminating the specimen if you were thinking of an  
13 infectious agent. I wouldn't use the term a searing  
14 knife. It is more like a hot, a small hot pad  
15 measuring about three-quarters of an inch by three-  
quarters of an inch attached to an electrical outlet,  
16 and that is used to sear the tissue.

17 Q. Absent any concern about an  
18 infectious agent, Doctor, would that be the normal  
19 practice that is followed to take a sample?

20 A. It probably is most of the time,  
but I concede that sometimes it might not be.

21 Q. Is that the one that you have  
22 used absent any concern about an infectious agent?

23 A. I can't recall. Usual procedure

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2       is to use that method, yes.

3

4           Q.     Now, Doctor, you have told me  
5     about two different samples from which a sample if  
6     we are talking blood samples may be drawn for the  
7     purposes of those blood screen tests. One is by  
8     seeking a sample directly from the heart.

9

10          A.    Yes.

11

12          Q.    And the second you told me, and  
13     I am sorry, could you repeat for me from what  
14     particular site in the head?

15

16          A.    From a venous channel in the head  
17     called the dural sinus.

18

19          Q.    Is it always sought, Doctor, to  
20     draw the blood where possible directly from a vein?

21

22          A.    Well, at post mortem it is some-  
23     times difficult to define blood that one can draw  
24     into a syringe so one uses whatever sources are  
25     available.

26

27          The blood sits in a vein and it tends  
28     to clot more slowly so that a vein is generally sought  
29     but I wouldn't say all the time.

30

31          Q.    Are there any other sites, Doctor,  
32     which are routinely utilized for the purposes of  
33     drawing a blood sample for a drug screening test?  
34     Other than those two?

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A. I don't think so. I am certainly not an expert on drawing samples of drug assays, but those would be the only two that I would be familiar with.

MS. CRONK: Thank you, Doctor.

Doctor, you have been very patient. I thank you, those are all my questions, sir.

THE COMMISSIONER: Before we start on the cross-examination, do you want to say something about next week?

MS. CRONK: Yes, indeed, sir.

The arrangements, in light of the time this morning with Dr. Becker's evidence have changed again from suggested scheduling yesterday. Our current plan was to invite Dr. Becker to return on Monday for the purposes of completing his evidence, and if need be over into Tuesday.

The next witness will then be Dr. Mancer, to be interrupted if necessary, you will recall, by the reattendance of Dr. Carver.

THE COMMISSIONER: What has happened to Dr. Taylor?

MS. CRONK: Dr. Taylor, as I understand, with the kindness of Mr. Ortved, rescheduled for a week Monday.





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THE COMMISSIONER: Yes. All right.

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Now, Mr. Roland, do you want to

proceed?

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MR. ROLAND: I don't think I can do it  
in 15 minutes. I am prepared to use the 15 minutes.

7

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THE COMMISSIONER: Well, you are not  
required to do it. I just didn't want to make you  
start unless you ...

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MR. ROLAND: I think I will be longer  
than that. I think I prefer to wait over until I  
can do it all at once.

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THE COMMISSIONER: Yes. All right.  
Then in that case we will rise until  
10 o'clock on Monday.

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--- Whereupon the Hearing was adjourned until  
Monday, September the 26th, 1983, at 10:00 a.m.





